AY2023/2024

MASTERING PSYCHIATRY

A core textbook for undergraduates (2023 edition)

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ACKNOWLEDGEMENTS

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PUBLISHING INFORMATION

First published in Singapore in 2012 by Melvyn WB Zhang and Roger CM Ho, Department of Psychological Medicine, Level 9, NUHS Tower Block, 1E Lower Kent Ridge Road, Singapore 119 228.
2nd Edition published in Singapore in July 2013.
3rd Edition published in Singapore in July 2014.
4th Edition published in Singapore in July 2015.
2016/ 5th Edition published in Singapore in July 2016.

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Serial Number: ASR2012/0006

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National Library of Singapore Cataloguing in Publication Data.
A catalogue record for this book is available from the National Library of Singapore

ISBN (Book): 978-981-07-0163-5
ISBN (DVD): 978-981-07-0164-2
ISBN (International): 978-1-105-93719-4
1 2 3 4 5 6 7 8 9 10

Editors: Melvyn WB Zhang, Cyrus SH Ho, Roger CM Ho
Undergraduate Editor: Hwang Kai Wen
Cover Design: Melvyn WB Zhang
Images: Anna Chua

Printed and bound in Singapore
Authorized Printers: E-Print(Singapore)

PREFACE

Psychiatry is a branch of medicine that focuses on the diagnosis, treatment and prevention of mental and emotional disorders. Psychiatry offers medical students a unique experience because psychiatric diagnosis is established by clinical interview but not based on a laboratory test or an X-ray. Medical students may need time to adjust to this specialty because it involves treatment modality such as psychotherapy or electroconvulsive therapy which are not found in other medical or surgical disciplines.

The duration of undergraduate posting in psychiatry is 6 weeks and it poses a challenge for medical students to master psychiatric knowledge and skills in a short period of time. The old ideology was to study a large psychiatric textbook. Medical students often realise that much time has elapsed without consolidating their knowledge prior to the examination, leading to panic attacks. Some students study textbooks published in the UK and US but these books may contain treatment recommendations which are not relevant to the Singapore context. We believe that this new book, Mastering Psychiatry: A core Textbook for Undergraduates will be one of the most accessible, creative and practical books in undergraduate psychiatry to bridge the gaps of revision and application of knowledge in the examinations and future practice. The skilful organisation comes through on every page and candidates can revise psychiatry in an efficient manner.

The chapters in this book are based on the common syllabus of most medical schools worldwide. We also incorporate the guidelines from the Ministry of Health (Singapore) and the National Institute of Clinical Excellence (NICE) (United Kingdom). The materials of this book are based on the undergraduate course taught and the wealth of clinical experience gathered by RH at the National University Hospital. Whenever possible, the concepts are supplemented with diagrams and sample exam questions, where the readers may gain a deeper insight, so whilst the materials are easily absorbable, they also provide a stepping stone to the OSCE examination. We believe that the preparation for OSCE is based on clinical videos and a DVD is provided to

help candidates to prepare for the OSCE. Furthermore, the OSCE grid helps to consolidate knowledge in a practical and memorisable manner. This book also contains important information required for the theory papers. We hope that we have produced an affordable book that lives up to the high expectations from the readers and yet to revise psychiatry in an enjoyable and informative way.

We have striven to make Mastering Psychiatry: A core textbook for undergraduates an interesting, enjoyable and useful. We would welcome constructive criticism and comments (email to masteringpsychiatry@gmail.com) directed at making improvements to future editions. We believe that readers putting effort into learning psychiatry through this book would be in a strong position to impress the examiners and their colleagues.

To people with mental illnesses, their families and mental health workers
who battle with mental illnesses and devote their lives to improve the quality of psychiatric care.

To medical students
who strive for excellence and determine to pursue a medical career with tireless effort.

Roger Ho
Melvyn Zhang
Cyrus SH Ho
Singapore 2016

DISCLAIMERS

1. The purpose of Mastering Psychiatry is to provide a free textbook and free access to a website which contains simulated videos. This is a dedication, lead by Dr. Melvyn WB Zhang and Dr. Roger Ho in 2012, to medical students from the Yong Loo Lin School of Medicine, NUS especially those students with financial difficulty and cannot afford a foreign textbook. Students can photocopy and reproduce in any format which they prefer because the authors would like to share their knowledge with medical students in the most direct and convenient way.

2. The authors do not receive any income from this book. This book is a humble setup without access to full typesetting service and no publisher was involved in the publication process. As a result, this book does not have continuous page numbering and an index at the back for cross-reference and cannot be comparable with a book published by a publisher.

3. There are various psychiatry textbooks in the market. University students are expected to have the wisdom to choose their preferred textbooks. Different textbooks are written in different styles and they are not mutually exclusive. Mastering Psychiatry follows the format of British revision notes for medical students. It aims to be concise and written in short sentences or point-forms.

4. There have been significant discoveries in psychiatric knowledge. The authors have tried their very best to include the most updated information in this book which is relevant to clinical

practice in Singapore. This book aims to be a companion for undergraduate studies and a reference book for future practice. The authors have highlighted mistakes and clarified queries raised by previous medical students. You can find those information in the website.

5. This book is not intended to replace clinical clerkship. Students are advised to see patients and link their clinical observation with the book content. In examination, there are questions based on clinical scenarios. Students are advised to use their clinical reasoning to select the best answers. It should not not a direct recall from any textbook without clinical reasoning.

6. We welcome constructive feedbacks and queries on Mastering Psychiatry. You could send your feedback and enquiries to masteringpsychiatry@gmail.com, or contact any one of the Singapore Lead Authors.

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Chapter 1
Psychopathology

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1.1 Perceptions

Perception is a complex process involving reception of information from sensory organs followed by recognition, processing and reorganisation of the information into memory, and a subsequent response relating to the information received.

Table 1.1 *Overview of Perceptual Phenomena*

Criteria	Imagination (Fantasy)	Illusion	Pseudohallucination	Hallucination	Real Perception
Voluntary / Involuntary	Voluntary	Involuntary	Involuntary (except eidetic imagery)	Involuntary	Involuntary
Vividness	Not vivid	Vivid	Vivid	Vivid	Vivid
Space	Inner subjective	Inner subjective	Inner subjective	Outer	Outer
Insight	Intact	Intact	Intact	Impaired	Intact
Psychiatric Disorders	Normal experience	Delirium	Depression	Schizophrenia	Normal experience

1.2 Illusions

An illusion is an involuntary false perception in which a transformation of real objects takes place (e.g. the curtain in the ward is perceived by a patient to be a female witch).

Description of Common Illusions

- **Complete illusion**: the brain's tendency to fill in missing parts of objects; banished by attention
- **Affective illusion**: occurs in depressed or manic states
- **Pareidolic illusion**: a type of intense imagery which persists even when the subject looks at a real object in the environment (e.g. seeing a woman's face when looking at a cloud); image and percept occur together although the image is recognised as unreal; increased by attention
- **Jamais vu**: illusion of unfamiliarity; occurs in people with temporal lobe epilepsy and exhaustion
- **Déjà vu**: illusion of familiarity
- **Macropsia**: illusion of exaggeration in size
- **Micropsia**: illusion of reduction in size

- **Afterimage**: an image continuing to appear in one's vision after exposure to the original image has ceased
- **Palinopsia**: medical condition in which afterimages are seen persistently; occurs in depression, anxiety, hallucinogen use, Parkinson disease and migraine

1.3 Hallucinations

A hallucination refers to the perception of an external object when no such object is present.

Auditory

- **Simple**: sounds or music
    - Elementary auditory hallucinations can be part of normal experience
    - **Epidemiology**: more common in women, older people
    - **Aetiology**: alcohol misuse (alcohol hallucinosis in clear consciousness), deafness, right temporal lobe lesion
- **Complex**
    - **Mood congruency**
        - **Congruent**: stating depressive/manic themes in second person (e.g. "You are useless") or command hallucinations (e.g. "You are useless and you should hurt yourself")
        - Occur in depressive disorder or bipolar disorder; can be dangerous
        - **Incongruent**: voices discussing the person in third person, giving a running commentary on the person's behaviour, or thoughts spoken out loud (thought echo/echo de la pense)
    - Occur in schizophrenia and are usually poorly localised in space; voice tends to increase if sensory input is restricted or if the person is drowsy
    - Some people with schizophrenia try to distract themselves from complex auditory hallucinations by listening to music or meaningful speech

Visual

- **Simple/Elementary**: e.g. flashing lights
    - Common in acute organic disease; lesions are found in the occipital cortex
    - **Positive scotoma**: simple visual hallucinations (e.g. flashes, stars) seen following head injury
    - **Migrainous visual aura**: often zigzag lines; due to transient disturbance of occipital cortex
- **Complex**: e.g. involving people/animals
    - Occurs in organic diseases; lesions are found in the temporal lobe
- **Lilliputian**: hallucinated objects (usually people) appear greatly reduced in size (microptic)
    - Occurs in psychiatric states associated with febrile or intoxicating conditions (e.g. alcohol); can be observed in the absence of recognisable organic disorders

Alcoholic

- Acute hallucinosis seen in people with alcohol dependence following excess alcohol intake; can also be part of withdrawal syndrome
- Rarely occurs in women
- Well-localised, derogatory, in second person
- Auditory hallucinations occur in a clear intellectual field without confusion or intellectual impairment
- Slow recovery, responds poorly to antipsychotics; recurrence is frequent

Hypnogogic/hypnopompic

Aide de memoire

HypnoGogic: Going to sleep
HypnoPompic: waking uP

- Conscious level fluctuates considerably in different stages of sleep, and both types of hallucination probably occur in a state of increasing drowsiness when the structure of thought, feelings, perceptions, fantasies and self-awareness become blurred and merged
- Hallucination can be visual, auditory or tactile
- Sudden occurrence, subject feels awakened by the hallucination (e.g. a loud voice in the street outside, a feeling of being pushed off the bed, or seeing a man coming across the room)
- May be considered normal even though they are true hallucinations

Autoscopy

- Seeing one's 'self' or 'double'; the double imitates movements and facial expressions of the original, as if a reflection in a mirror
- The double typically appears as semitransparent and associated auditory, kinaesthetic, and emotional perceptions are frequent
- Hallucinatory experience rarely lasts longer than a few seconds
- The most common emotional reactions are sadness and bewilderment
- Also occurs in organic disorders (e.g. parieto-occipital lesions, temporoparietal lesions), epilepsy, schizophrenia and substance misuse; neurological and psychiatric disorders can occur in 60% of cases
- M:F = 2:1; mean age = 40 years

Extracampine

- Experiences outside the limits of sensory fields including visual field and range of audibility
- Differs from autoscopy as the person often sees others outside the sensory field but not themselves

Kinesthetic

- Sense of bodily movement (e.g. a person believes that his elbow is rotating involuntarily but there is no such sign on physical examination)

Cenesthetic

- Sensation of an altered state in a body organ without corresponding receptors which can explain the sensation in normal human physiology

1.4 Psychopathology in Thought

Circumstantiality

- Speech takes a long time to reach the point because it includes a great deal of unnecessary details
- Occurs in schizophrenia, dementia, temporal lobe epilepsy and normal people

Tangentiality

- Stream of thought diverges from the topic and speech appears to be unrelated and irrelevant at the end
- Due to loosening and diffuseness of speech
- Occurs in schizophrenia and mania

Flight of ideas

- Continuous speech where topics jump rapidly from one to another and there is a logical link between topics
- Occurs in mania; accompanied by pressure of speech

Loosening of associations

- Diffuse and unfocused speech where topics seem disconnected; difficult for the listener to establish a logical link between topics

Knight's move thinking

- Speech where topics change abruptly; no logical link between thoughts
- Occurs in schizophrenia
- Train of thought is similar to the knight's movement in a chess game

Thought insertion

- Patient feels that external thoughts which do not belong to them are being inserted into their mind

Thought withdrawal

- Patient feels that their own thoughts are being taken away by others

Thought broadcasting

- Patient feels that their own thoughts are being made known to others through broadcasting much like a radio or television station

1.5 Psychopathology in Speech

Logoclonia

- Spastic repetition on syllables
- Occurs in people with autism, schizophrenia, Alzheimer disease and Parkinson disease

Logorrhoea

- Excessive verbal production

Neologism

- Invention of own words which hold special meaning for the speaker and cannot be found in the English language; condensations of several other words
- e.g. a patient refers to clouds as ‘lambrain’ because they look like lambs and produce rainfall
- Occurs in schizophrenia

Metonym

- Approximate but related term used in an idiomatic way; word is found in the English language
- e.g. a patient refers to clouds as ‘sky sheep’ because they look like sheep in the sky
- Occurs in schizophrenia and associated with loosening of associations

Word salad

- Jumble of words and phrases with little obvious connection
- Occurs in schizophrenia and associated with loosening of associations

Mutism

- State in which a person is silent and voiceless
- Organic causes: catatonia, herpes simplex viral encephalitis, locked-in syndrome, myasthenia gravis, polio infection
- Psychological causes: conversion disorder, malingering

Stupor (akinetic mutism)

- Person is mute but does not suffer from aphasia; unresponsive and immobile although fully conscious
- Visual tracking is preserved; opening and closing of eyes are under voluntary control
- Resting posture usually maintained; neurological examination often reveals normal reflexes

1.6 Overvalued Ideas, Obsessions and Delusions

Overvalued idea

- Possible idea pursued beyond normal boundaries which causes distress and functional impairment to the patient
- Idea can be challenged e.g. a patient believes other people are looking at her causing her to feel upset, but she accepts that people are staring at her possibly because of abnormal clothing or behaviour when challenged

Obsession

- Repetitive and irrational thoughts recognised to be the patient's own; can be challenged
- Often leads to anxiety and compulsions

Delusion

- Firmly maintained false belief contradicted by reality; idiosyncratic, incorrigible and preoccupying
- Types
    - **Persecutory** (harm by others)
    - **Nihilistic** (patient ceases to exist)
    - **Reference** (reference by others without supporting evidence e.g. media)
    - **Grandiose** (exaggerated power and importance)
    - **Jealousy** (believing that one's partner is unfaithful through pathological reasoning)
- Causes
    - **Primary delusion**: arises out of the blue with no explanation e.g. a schizophrenic patient suddenly believes that he is from Mars

- **Secondary delusion**: secondary to other psychopathology such as auditory hallucination in schizophrenia or grandiosity in mania e.g. a manic patient believes that he is the president of a country

Delusional mood

- Change in mood which precedes emergence of delusion; a feeling that something sinister is about to happen

Delusional perception

- A real perception with delusional interpretation e.g. “When the traffic light turns green, God is asking me to go to heaven.”

Delusional memory

- A real memory with delusional understanding e.g. “I had an appendectomy ten years ago during which aliens put an implant in my body to control the world.”

1.7 Psychopathology in Movement

Ambitendency

- Repetitive behaviour of cooperation and opposition; a form of ambivalence
- e.g. a person starts to make a movement but before completing it, he/she starts an opposing movement
- Occurs in schizophrenia

Mitgehen

- Excessive cooperation and limb movement in response to slight pressure of an applied force even when the person is told to resist movement
- Occurs in catatonia

Mitmachen

- Limb movement in response to an applied force in any direction without resistance
- Occurs in schizophrenia

Waxy flexibility

- Abnormal maintenance of posture in catatonia
- e.g. a person maintains his left arm in the air after it is passively raised by the examiner

Automatic obedience

- Blind following of examiner's instructions without judgement or resistance
- Usually occurs in catatonic schizophrenia

Negativism

- Active performance of the opposite action to the instruction from the examiner
- Usually occurs in catatonia

Stereotypy

- Non-goal-directed repetitive movements (e.g. rocking back and forth)
- Occurs in schizophrenia

Mannerism

- Goal-directed repetitive movements (e.g. repetitive hand gestures by a speaker to convey messages)

Echolalia

- Repetition of words or phrases spoken by another person
- Occurs in autism, schizophrenia and dementia

Echopraxia

- Repetition of movement demonstrated by another person
- Occurs in catatonia and schizophrenia

Catalepsy

- Abnormal maintenance of posture in catatonia

Cataplexy

- Temporary loss of muscle tone in narcolepsy

Compulsion

- Repetitive and purposeful movements resisted by the person as they are senseless
- Used to neutralise anxiety generated by obsessions

1.8 Common Psychiatric Syndromes

Charles de Bonnet syndrome

- Complex visual hallucinations lasting from days to years associated with central or peripheral reduction in vision; also occurs in people who are blind or have partial vision
- Content of hallucination involves vividly-coloured people or animals
- No delusions or hallucinations in other modalities

Folie à deux

- Transfer of delusion from one person with a psychotic disorder to another with whom he/she is in close association such that they share the same delusion

Capgras syndrome

- Delusional misidentification of a familiar person; patient believes that a familiar person is replaced by an imposter or double
- More common in women
- Occurs in schizophrenia, affective disorder or dementia

Erotomania (de Clerambault syndrome)

- Patient who believes that a stranger or person of higher social status is in love with them although there is no evidence to support their relationship

Fregoli syndrome

- Delusional misidentification of an unfamiliar person as a familiar person
- Occurs in schizophrenia or dementia

Ganser syndrome

- Approximate answers interspersed with correct responses, apparent disorientation, clouding of consciousness, vorbeireden (answering of a question in such a way that one can tell the patient has understood the question, although the answer may be obviously wrong), pseudohallucination, fluctuation of somatic symptoms
- May have amnesia for the duration of illness after recovery

Othello syndrome (morbid jealousy)

Video 1.1 *Morbid Jealousy*

- Firm but pathologically concluded belief that one's spouse or partner is unfaithful
- Often associated with confrontation and violence
- Management involves geographical separation and antipsychotic treatment

Munchausen syndrome (hospital addiction syndrome)

- Exaggeration of symptoms in order to be admitted
- **Munchausen syndrome by proxy**: parent imposes their child to be admitted; a form of child abuse

1.9 OSCE Grid

A 20-year-old university student was brought in by the counsellor to the emergency department. He was found sitting in the lift of the residential hall for an entire day refusing to attend classes. He claims that he hears voices talking to him.

Task: assess this patient's hallucinations

Approach to Hallucinations

Candidates are advised to ask about hallucinations in other modalities. The patient may have used recreational drugs causing visual or tactile hallucinations. The patient may be paranoid and suspicious of doctors; candidates will have to spend time establishing rapport at the beginning.

Table 1.2 *OSCE Grid: Approach to Hallucinations*

A) Second-person auditory hallucination in depression and mania				
A1) Introduction	A2) Open question	A3) Nature of voices	A4) Command hallucinations	A5) Mood congruence
When people are under stress, they may have unusual experiences. I understand from your counsellor that you have been hearing voices.	Can you tell me more about the voices? Can you give me an example?	How do these voices address you? Do they speak directly to you?	Do the voices give you orders or command you to do things? Do you obey these voices?	Does your mood influence the content of the voices? For example, when you are sad, do the voices say sad things?
B) Third-person auditory hallucination in schizophrenia				
B1) Number of voices	B2) Content of hallucination	B3) Running commentary	B4) Audible thoughts	B5) Echo de la pense
Do you hear more than one voice? How many voices are there in total?	What do the voices say?	Do the voices comment on what you are doing or thinking?	Do the voices say your thoughts out loud?	Do the voices echo your thoughts after a few seconds?

C) Confirm nature of hallucinations				
C1) Space	C2) Space	C3) Vividness	C4) Voluntary / Involuntary	C5) Hypnogogic / Hypnopompic
Where do these voices come from? Do they come from external space?	Do the voices come from inside or outside your head?	Do you feel that the voices are real? Are the voices as clear as my voice?	Can you stop the voices from talking? Can you distract yourself from the voices?	When do these voices occur? Were you falling asleep or waking up when the voices spoke?
D) Hallucinations in other modalities and insight				
D1) Visual hallucinations	D2) Olfactory hallucinations	D3) Gustatory hallucinations	D4) Tactile / haptic hallucinations	D5) Assess insight
Have you seen things that other people cannot see? What kind of things do you see? Can you give me an example?	Is there anything different or strange with your sense of smell? Can you tell me more about it?	Have you noticed that food or drink seem to have a different or strange taste recently?	Have you had any strange feelings in or on your body? Do you feel as if people are touching you, or that insects are crawling on your body, even when you do not see any?	What do you think is causing these experiences? Do you think you might need help to stop these strange experiences?
E) Course / Comorbidity / Risk assessment				
E1) Course of hallucinations	E2) Impact of hallucinations	E3) Other first rank symptoms	E4) Substance misuse	E5) Risk assessment
How long have you been experiencing these voices for?	How do these experiences affect your life? How is your mood? Has your mood been affected by these voices?	Do you worry that these voices are part of a plot to harm or control you? Do you feel as if your thoughts are being interfered with? (e.g. thoughts are being inserted, withdrawn or broadcasted)	Do you use recreational drugs or alcohol?	Sometimes when people are stressed they might think about harming themselves or ending their lives. Do you have such thoughts?

Key Learning Points

1. Perception involves reception of information from sensory organs, recognition, processing, reorganising, and a subsequent response to the information received.
2. True hallucinations appear to originate from the outside space (outside the patient's head, as real as other environmental stimuli), whereas pseudohallucinations are recognised by the patient to originate from the inside space (within the patient's head, less real than other environmental stimuli).
3. An illusion is the altered perception of existing objects, whereas a hallucination is the perception of objects which do not exist.
4. Mood congruency is important in differentiating complex auditory hallucinations.
5. Psychopathology in thought is commonly manifested in speech; hence the mental state examination is important to assess for such psychopathology.
6. Obsessions are repetitive and intrusive thoughts, recognised to be the patient's own, which cause the patient distress.
7. Five main types of delusions exist: persecutory, nihilistic, reference, grandiose, and jealous.
8. A delusional perception is a real perception but with a delusional interpretation, whereas a delusional memory is a real memory but with a delusional understanding.
9. Capgras syndrome is the misidentification of a familiar person as an unfamiliar person (e.g. a patient believes that their father has been replaced by an alien) whereas Fregoli syndrome is the misidentification of an unfamiliar person as a familiar person (e.g. a patient believes that the psychiatric doctor is in fact his father).
10. Munchausen syndrome is a factitious disorder of treatment-seeking behaviour which can be imposed on others (Munchausen syndrome by proxy).

Revision MCQs and MEQs

MCQ

1. A 30-year-old man was brought to the Accident and Emergency Department. He suddenly fell down after hearing a loud sound at a party. There was no loss of consciousness. The psychopathology being described is:

a. Catalepsy
b. Cataplexy
c. Catatonia
d. Posturing
e. Waxy flexibility

Answer:
Cataplexy refers to temporary paralysis and loss of antigravity muscle tone without loss of consciousness. Cataplexy is often precipitated by emotional excitement and associated with narcolepsy.

2. An elderly Chinese man complained, "My guts are rotten and blood has stopped flowing to my heart. I am dead." The psychopathology being described is:

a. Acute intestinal obstruction
b. Delirium
c. Delusion of control
d. Nihilistic delusion
e. Hypochondriasis

Answer:
Nihilistic delusion is the belief that one is dead or that the external world does not exist. Nihilistic delusions can be secondary to severe depression, schizophrenia, or an organic disorder.

3. A 50-year-old man is referred from vascular surgery. He complains that he feels someone is pushing his abdominal aorta and he is very disturbed by this sensation. The psychopathology being described is:

a. Cenesthetic hallucination
b. Delusional perception
c. Haptic hallucination
d. Kinaesthetic hallucination
e. Somatic passivity

Answer:
Cenesthetic hallucinations involve a false perception of an altered state in body organs without corresponding sensory receptors to explain the sensation. Kinaesthetic hallucinations involve the

sense of muscles and joints. Common causes include schizophrenia and withdrawal states form benzodiazepines or alcohol intoxication.

4. A man sees a blue car driving past him and he comes to the conclusion that terrorists are going to kill him. Which of the following is this most likely to be?

a. Delusion of hypochondriasis
b. Delusion of passivity
c. Delusional perception
d. Delusion of persecution
e. Visual hallucination

Answer:
A delusional perception is a normal perception falsely interpreted by the patient and held as being significant to him. It is one of Schneider's first rank symptoms.

5. Morbid jealousy is not:

a. a misidentification phenomenon
b. associated with erectile dysfunction
c. associated with violence
d. encapsulated
e. more common in men than women

Answer:
Misidentification syndrome refers to Capgras and Fregoli syndromes. Morbid jealousy is a delusional disorder that the marital or sexual partner is unfaithful, typically accompanied by intense searching for evidence of infidelity and repeated interrogations and direct accusations of the partner that may lead to violent quarrels. Morbid jealousy is more common in men than in women. Morbid jealousy is associated with erectile dysfunction and alcohol misuse.

MEQ

A 20-year-old woman presents with psychotic symptoms such as seeing images and hearing voices which tell her to cut her wrist for 6 months. She also complains of mood swings. Her parents are divorced and she was abused by her step-father.

1. What are the differential diagnoses?

Answer:
Differentials include:
- Bipolar disorder with psychotic features
- Borderline personality disorder
- Major depression with psychotic features

- Schizophrenia
- Substance misuse (e.g. hallucinogens, amphetamine)

2. Her mother wants to know how you would differentiate schizophrenia from other differential diagnoses. Your answer is:

Answer:
Schizophrenic patients usually hear third-person auditory hallucinations.
Audible thoughts, thought echoing and running commentary usually occur in schizophrenia.
Schizophrenia patients have other first rank symptoms such as thought interference, passivity and primary delusions.

EMIS

Psychopathology

1. The experience of one's name being called out when one is about to fall asleep.

a. Completion illusion
b. Dysmeglopsia
c. Extracampine hallucination
d. Haptic hallucination
e. Hypnogogic hallucination
f. Hypnopompic hallucination
g. Kinaesthetic hallucination
h. Lilliputian hallucination
i. Pareidolia
j. Synaesthesia

2. A young woman has been diagnosed with her first episode of psychosis. She claimed that she is unable to concentrate as she hears her father shouting at her continuously from his flat 2 miles away.

a. Completion illusion
b. Dysmeglopsia
c. Extracampine hallucination
d. Haptic hallucination
e. Hypnogogic hallucination
f. Hypnopompic hallucination
g. Kinaesthetic hallucination
h. Lilliputian hallucination
i. Pareidolia
j. Synaesthesia

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Chapter 2
Clinical Interview

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2.1 Interviewing Techniques

1. **Open-ended questions**
   Often used in the initial phase of the interview to produce spontaneous responses from the patient which are potentially what feels most important to the patient, and used to convey a sense of genuine interest to the patient. E.g. 'Can you tell me why you were admitted?'

2. **Closed-ended questions**
   Often follow open-ended questions to efficiently elicit specific details. E.g. 'Did you attempt to end your life prior to admission?'

3. **Summation**
   A brief summary of what the person has said so far; done periodically to ensure the interviewer understands the person correctly. E.g. (to a man who does not believe that he suffers from schizophrenia and wants to seek a second opinion), 'I would like to make sure that I understand you correctly so far. You are saying that you do not think your experience is due to schizophrenia, based on your own readings.'

4. **Transition**
   A useful technique to gently inform the person that the interview is going on to another topic.

5. **Empathic statements**
   Convey that the psychiatrist finds the patient's concerns important, and acknowledges the patient's sufferings. E.g. (to a man suffering from post-stroke depression), 'I can imagine that you were terrified when you realised that you could not move half of your body.'

2.2 Psychiatric History

Table 2.1 *Taking a Psychiatric History*

Introduction	Before starting the interview, ensure the person understands the purpose of the interview and ensure there is no hearing impairment	"Hello, my name is Dr. Zhang. Has anyone told you about the nature of this interview? Let me explain…"
Identifying information and demographics	Key demographic data includes: 1. Full name 2. Age 3. Gender 4. Marital status: married, divorced, single, widowed 5. Occupation: if unemployed, the interviewer should explore previous job(s) and	"Before we start the interview, it is important for me to ensure that I got your name right…" "May I know your current age?" Example for presentation: 'Mr. Tan is a 36-year-old taxi driver who is married and stays with his family in a 3-room HDB flat. He is currently an inpatient at ward 33, National University Hospital.'

	duration of unemployment; if housewife, explore her spouse or partner's occupation. 6. Current living arrangement: living alone, homeless, with family 7. Current status: inpatient or outpatient	
Presenting complaint	The presenting complaint can be part of a first episode of illness or as one of a series of episodes For patients who are hospitalised, it is important to enquire whether this admission is voluntary or under the Mental Disorder and Treatment Act; seek the person's view in his or her own words about the admission List symptoms in lay terms in order of decreasing severity and state the duration of each.	"What made you come to this hospital/clinic? Can you tell me what happened before that?" Example for presentation: 'Mr. Tan presents with an intention to end his life, hopelessness, low mood, poor sleep, poor appetite and poor concentration over a duration of 3 months.'
History of presenting illness	Precipitating factors, symptom severity, duration and context of the current episode chronologically Maintaining and protective factors Impact on relationships and functioning Significant negatives (e.g. psychotic symptoms in severe depression) Patient's views toward previous psychiatric treatments, assess efficacy and explore previous side effects Common psychiatric comorbidity and differential diagnoses associated with the history of present illness	Start by allowing the person to talk freely for 5 minutes and demonstrate eagerness to hear the person's concerns Questions such as, "What made you seek treatment this time?" may reveal current stressors; and "What are the problems that your illness has caused you?" assesses functional impairment. "What do you think may have caused you to feel like this?" may reveal the patient's perception of symptoms.
Past psychiatric history	Past psychiatric diagnoses, past treatments (medication, psychotherapy or ECT); side effects associated with psychotropic medications, adherence to treatment, previous hospitalizations (including	Example for presentation: 'This current episode is in the context of a 20-year history of depressive illness. 20 years ago, Mr. Tan first consulted a psychiatrist in private practice complaining of low mood, poor sleep and loss of interest for 6

	involuntary admissions), treatment outcomes History of suicide, self-harm, violence and homicide attempts: essential in predicting future risk Importantly, identify precipitating and maintaining factors of each episode, as these provide important information in formulation	months. The psychiatrist prescribed a tricyclic antidepressant (amitriptyline). Mr. Tan complained of dry mouth and constipation. Due to financial constraints, he then consulted a psychiatrist at the National University Hospital…'
Past medical history and review of major systems	Past and current medical problems and physical symptoms; in particular pain (e.g. migraine), seizures (e.g. temporal lobe epilepsy), stroke, head injury, endocrine disorders and heart diseases Long-term medications that the patient has been prescribed for the above problems Past surgical problems and surgery received Drug allergy (especially to psychotropic medications; clarify nature of allergic reactions) Physical problems may be due to medication effects (e.g. prolonged QTc resulting from antipsychotics)	Example for presentation: 'Mr. Tan has a background of hypertension and hyperlipidaemia. The polyclinic doctor has prescribed atenolol 50mg OM and simvastatin 40mg ON. Mr. Tan has no past history of surgery. He has no past history of drug allergy.'
History of substance misuse	Type (alcohol, benzodiazepines, recreational drugs), amount, frequency, onset of, and past treatment for substance misuse Biological (e.g. delirium tremens/ head injury) and psychosocial complications (e.g. drunk driving, domestic violence) associated with substance misuse Tobacco use (quantity and frequency) Look for dual diagnosis e.g. depression with alcohol misuse.	Maintaining a non-judgmental attitude is essential in enquiring about substance misuse Normalise the experience of substance misuse: "When people are under stress, they may use recreational drugs. I would like to find out from you whether you have had such experiences." Avoid direct questions such as, "Do you use drugs?" which may prompt the person to deny any drug use.

	Financial aspect: funding of substance misuse	
Family history	Family psychiatric and medical histories Substance misuse (e.g. alcohol) among family members Early and unnatural deaths which may indicate suicide Briefly assess the quality of interpersonal relationships in the family	Demonstrate empathy if a close family member suffers from severe psychiatric illness Identify the aetiology of psychiatric illness in family members. E.g. "What makes you think that your mother may suffer from depression?"
Background history	Relationship/marital history (current and past); wellbeing of children (e.g. child protection issues); psychosexual history (sexual orientation, STDs if relevant, issues related to infertility; in women, ask about their last menstrual period, possibility of pregnancy and contraception methods); social history (current living situation, level of expressed emotion, past employment and religion) Current occupation: e.g. working hours, interpersonal relationship in the workplace and stress level; reasons for changing jobs (e.g. interpersonal problems which reflects patient's personality; potential risk associated with an occupation (e.g. alcohol misuse in a man working in a bar) Developmental history: birth, childhood development, relationship with parents and siblings, history of physical/sexual abuse, prolonged separation, unhappy childhood Education history: age of starting school, highest educational level; explore reasons if education is stopped prematurely	'Has your character changed since you became unwell?' 'Can you tell me your attitude towards other people such as colleagues, supervisors and society?'

	Educational background affects performance of the MiniMental State Examination (MMSE) Premorbid personality: Ask the person to describe his or her character, habits, interests, attitude toward self or others and coping mechanisms Forensic history: history of offences, nature of offences, current status (convicted or pending court case), previous imprisonment, remorse towards victims	
Risk assessment	Suicidal and homicidal ideations, access to large amounts of medications, sharp objects, firearms and tendency to violence Risk is not limited to the above; in young people with ADHD, assess the risk of accidents due to poor impulse control and hyperactivity In old people with cognitive impairment, assess risk of fall, fire, accidents and exploitation	People with suicidal or homicidal ideation are often guarded in sharing their thoughts with others. Candidates should be empathetic to the patients and offer reassurance that they are interested in the patients' wellbeing and want to offer help as much as possible. E.g. "I am sorry to hear that you have gone through so much hardship. Have you been thinking about death or ending your life?"
Closing	Thank the patient	"We may need to wrap up the interview shortly. I would like to invite you to ask me any questions. I will try my very best to address your concerns."

2.3 Mental State Examination

Table 2.2 *Mental State Examination*

Rapport and attitude toward the interview	The interpersonal nature of rapport includes establishing mutual experience and awareness of the presence of the other, the mutual sharing of thoughts and feelings, the notion of empathy and the development of mutual trust between the interviewer and patient
Appearance and behaviour	General appearance includes the observation of dress, grooming, facial expression and ancillary objects (e.g. handcuffs, weapons, etc), which often provide information about attitude and other non-verbal communication relevant to rapport

	Behaviour: observation of non-verbal behaviours includes eye contact, gestures and other useful communications 1. Disinhibition refers to behavioural and social manifestations of undue familiarity, coarseness, and aggressive behaviours 2. Mannerisms (repetitive behaviours without serving any purpose), stereotypies (repetitive behaviours serving a purpose) and uncontrolled aggression may indicate impairment in reality testing 3. Childlike behaviour or regression: may occur in an adult with personality disorder; the person may hold a transitional object such as a toy or stuffed animal
Speech	1. Rate, volume and pressure of speech (e.g. increased rate in mania, decreased rate in depression) 2. Loss of tone is seen in people with Asperger syndrome 3. Dysarthria involving slurred speech 4. Dysphasias (e.g. Wernicke and Broca area dysphasias) 5. Stuttering and cluttering of speech 6. Explosive quality with forced vocalization (in agitated and angry patients) 7. Preservative features of speech (e.g. difficulty in changing topics in people with frontal lobe syndrome) 8. Elective mutism 9. Poverty of speech
Thought	Flow of thought: 1. Circumstantiality 2. Tangentiality 3. Flight of ideas/racing thoughts (in manic patients) 4. Thought blocking 5. Loosening of associations 6. Word Salad - in which the speech is an incoherent and incomprehensible mixture of words and phrases Form of thought: 1. Obsessions 2. Overvalued ideas 3. Delusions Content of thought: provides an opportunity to assess the capacity of a person in expressing his or her experiences and clinical information 1. Content of phobia: crowded area (agoraphobia), centre of attention (social phobia) or object (e.g. spider) 2. Obsessional themes: contamination, harming others, intellectual aspects (e.g. purpose in life)

	Thought interference: 1. Thought insertion 2. Thought withdrawal 3. Thought broadcasting Overvalued ideas Delusions: 1. Primary delusions (e.g. morbid jealousy, persecutory, reference) 2. Secondary delusions (e.g. nihilistic, grandiose) 3. Passivity phenomena/delusion of control 4. Delusional misinterpretation
Affect and mood	General description of affect: happy, euphoric, manic, depressed, tearful, anxious, angry or detached Range of affect: 1. Within normal range 2. Labile affect: rapid fluctuation of affect (e.g. from tearfulness and laughter in a 10-minute interview, seen in patients with bipolar disorder) 3. Blunted affect: reduction in variation in mood and emotions 4. Flat affect: almost total absence of variation in mood and emotions 5. Apathetic: “freedom from feeling” or a dulled emotional tone; also conveys sense of indolence and indifference to what normally excites emotion or interest. Detachment is one of the aspects of apathy. Apathy is a negative symptom in schizophrenia and also seen in patients with dementia Other descriptions of affect: stability throughout the interview, congruence with the history of present illness and present complaint Mood refers to the subjective emotional state described by a patient. Ask the person to rate his or her mood on a scale of 1 to 10 (1 means very sad and 10 means very happy) and look for congruency with the observed affect Other features associated with affect: 1. Alexithymia: difficulty in a person to verbalise his or her emotion 2. Laughter: a universal human behaviour, often a pleasurable relief of tension; appropriate laughter may be a very useful phenomenon to observe in that it confirms the person’s reactivity of affect, their capacity for exhilaration and mutual enjoyment 3. Crying may occur in a wide range of normal situations (e.g. grief, relief, pain, fear, shame, guilt, humiliation) as well as in a number of psychiatric

	disorders (e.g. depressive disorder, adjustment disorder, acute stress disorder)
Perceptual disturbances	1. Illusions: illusions of affect, illusions of completion, pareidolic illusions 2. Hallucinations: auditory, visual, olfactory, gustatory, tactile, haptic 3. Pseudohallucinations
Insight	A psychiatric patient may have impaired insight if: 1. He/she believes that he/she is not ill 2. He/she does not believe that his/her signs/symptoms are due to a psychiatric condition 3. He/she does not believe that psychiatric treatment can be helpful
Cognitive function	Comment on the level of consciousness and orientation; if dementia is suspected, test general knowledge (e.g. the name of the current prime minister), short-term memory (by recall of an address or three objects) and perform a Mini Mental State Examination (MMSE) Assess orientation to time, place and person Assess attention and concentration: 1. Attention: ability of a person to maintain his or her conscious awareness on an external stimulus and to screen out irrelevant stimuli 2. Concentration: sustained and focused attention Level of consciousness: alertness, arousal and awareness of self, external environment and stimuli Abstract thinking: manipulation of concepts, constructs, ideas, thoughts or images and ability to link them in a flexible way giving rise to non-literal relationships and meaning

2.4 Physical Examination

Physical examination is important for psychiatric practice and students are advised to look for tell-tale signs of underlying physical conditions.

Table 2.3 *Psysical Examination*

General Inspection	1. General well-being and body habitus (e.g. cachexia in anorexia nervosa, obesity which may suggest metabolic syndrome) 2. Ocular abnormalities (e.g. exophthalmos in Graves disease, lid lag in thyrotoxicosis) 3. Atypical facial features may suggest syndromes associated with learning disability (e.g. Down syndrome)

	4. Extremities: scars on the arms may indicate deliberate self-harm in people with borderline personality disorder; needle tracks may indicate intravenous drug use
Neurological	1. Tremor: thyrotoxicosis, alcohol withdrawal, extrapyramidal side effects 2. Involuntary movements: (e.g. akathisia induced by antipsychotics) 3. Abnormal posturing (e.g. waxy flexibility in catatonia) 4. Abnormal gait (e.g. shuffling gait in Parkinson disease, broad-based cerebellar gait in alcohol misuse)
Cardiovascular	1. Pulse: heart rate and rhythm 2. Blood pressure (e.g. postural hypotension associated with quetiapine) 3. Heart sounds, murmurs
Abdominal	1. Scars from previous operations 2. Lanugo associated with anorexia nervosa 3. Hepatomegaly

2.5 Hierarchy of Differential Diagnoses

Students are advised to provide their diagnosis based on the DSM-IV-TR or ICD-10 criteria.

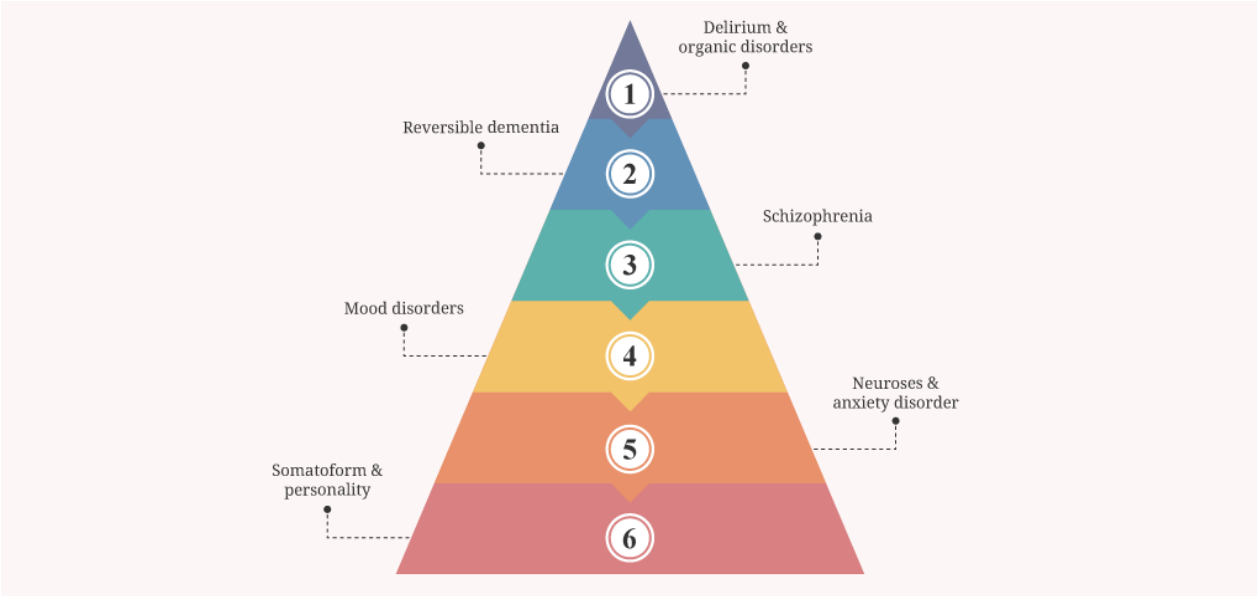
DSM-IV-TR uses the five axis approach:

Table 2.4 *Psysical Examination*

Axis	Diagnosis
I	Main psychiatric illness
II	Personality disorder or mental retardation
III	General medical condition
IV	Psychosocial and environmental problems
V	Global assessment of functioning (GAF score)

Students are advised to rule out conditions at the upper part of the pyramid before considering conditions at the bottom of the pyramid. The conditions at the upper part of the pyramid are given diagnostic priority because these conditions are treatable and reversible using biological treatments.

Figure 2.1 *Hierarchy of Differential Diagnoses*



2.6 Formulation

Formulation of a case can be based on the following biopsychosocial model:

Table 2.5 *Formulation*

	Predisposing factors	Precipitating factors	Maintaining factors
Biological factors	Genetics (important in schizophrenia, bipolar disorder, severe depressive episodes, obsessive compulsive disorder and Alzheimer disease)	Examples: • Recent physical illness leading to depression • Substance misuse leading to psychosis • Sleep deprivation leading to mania	Examples: • Chronic medical diseases • Continued alcohol misuse
Psychological factors	Personality and temperament	Examples • Recent loss and stress • Non-adherence to medication	Examples: • Presence of cognitive errors • Lack of meaningful activities • Impaired insight
Social factors	Adversity in socioeconomic status Early separation from parents	Examples: • Life events: divorce, unemployment	Examples: • Lack of income • Social isolation

2.7 Investigations

Routine investigations in psychiatry: FBC, LFTs, U/E/Cr, TFTs, urine drug screen, ECG (looking for prolonged QTc)

Further investigations: may be required based on patient's history and potential diagnosis e.g. CT/MRI brain scan, EEG, VDRL, B12 and folate, HIV testing with patient's consent

Collateral history: from partner/spouse, friends, family, GPs and other professionals; with patient's consent

Home visit: the treatment team may consider doing a home visit to understand the interaction between home environment and current psychiatrist illness; occupational therapists can assess activities of daily living of an individual while social workers can assess social support

If the patient requires further psychological assessment, the psychiatrist needs to identify a clear goal. For example, a baseline neuropsychological assessment of a person with recent head injury followed by a repeat assessment after six months of cognitive rehabilitation

2.8 Management

Management can be divided into immediate, short term, medium term and long term treatment.

Immediate treatment

- Hospitalisation and close supervision to prevent suicide attempts, or prescription of benzodiazepines to prevent alcohol withdrawals. The Mental Disorder and Treatment Act can be applied to admit patients who are at risk but refuse admission to the Institute of Mental Health.

Short term treatment

- **Biological treatment**: depending on diagnosis, comorbidity and drug interactions, psychiatrists may consider antipsychotics, antidepressants, mood stabilisers, benzodiazepine and anti-dementia medication
- **Multidisciplinary treatment**: if necessary, the psychiatrists may obtain input from other experts in medicine, surgery, paediatrics, geriatrics, and obstetrics and gynaecology
- **Risk management**: modifying and managing risk factors (e.g. treat underlying depressive disorder by advising caregivers to remove sharp items at home to prevent suicide or selfharm); also important to prevent harm to other people (for example, inform social agency to ensure safety of the patient's children)
- **Establish therapeutic alliance**: to facilitate future psychological therapy; psychoeducation and supportive counselling can be offered while the patient stays in the

ward while more sophisticated therapy requires further work after discharge e.g. cognitive behaviour therapy

- **Discharge planning**: active collaboration with patient's relatives, outpatient psychiatrist, case manager (e.g. Early Psychosis Intervention Programme), GP, and community psychiatric team; relatives and mental health team can help to identify relapse and play an active role in contingency planning

Medium and long term treatment

- **Psychological treatments**: counselling, supportive psychotherapy, cognitive behaviour therapy or interpersonal therapy; patient's motivations, preferences and previous response to psychological treatments should be explored
- **Social treatments**: monitoring by community psychiatric nurses, vocational assessment, supported work schemes, domiciliary self-care training, supported accommodation, child protection

Key Learning Points

1. When taking a psychiatric history, open-ended questions are important in eliciting information important to the patient, but should always be followed-up with close-ended questions.
2. In taking a psychiatric history, it is particularly important to assess educational history, premorbid history and conduct a risk assessment, in addition to routine components of a medical history.
3. The mental state examination is a unique aspect of psychiatric examination conducted during interaction with the patient, focusing on appearance and behaviour, speech, thought, affect, mood, active perceptual disturbances, and insight.
4. Insight is impaired if a patient believes themselves to not be ill, that their symptoms are not due to a psychiatric condition, and if they do not believe psychiatric treatment might be helpful; assessing insight is unique to psychiatry as it greatly affects prognosis and management.
5. Following the pyramidal hierarchy of diagnosis is important to rule out reversible conditions, before considering other diagnoses.
6. Formulation is a preferred format of analysing a case which not only considers a biopsychosocial model of causation, but also predisposing, precipitating, perpetuating and protective factors.

- [ ] 7. Looking for prolonged QTc on electrocardiography is an important physiological investigation in psychiatry prior to starting certain pharmacological agents.
- [ ] 8. Taking a collateral history is a unique aspect important to psychiatric evaluation.
- [ ] 9. Comprehensive management of a psychiatric patient can be described in terms of a biopsychosocial model.
- [ ] 10. Management of a psychiatric patient can also be described in terms of immediate (acute), short-term, intermediate and long-term.

Revision MCQs and MEQs

MCQ

1. A 40-year-old woman is referred by her GP because she suffers from depressive disorder. During the interview, she has difficulty verbalising her emotions. This phenomenon is best described as:

a. Ambivalence
b. Affective flattening
c. Alexithymia
d. Alogia
e. Anhedonia

Answer:
Difficulty in expressing one's emotions is known as alexithymia. Primary alexithymia is described as a personality trait characterized by difficulty in identifying one's emotional state. Secondary alexithymia is a "state" reaction during serious physical illness and severe depressive episodes. Defective interhemispheric communication or inhibition of corpus callosum activity may lead to alexithymia.

2. You are assessing a 30-year-old man who is aggressive towards staff in the Accident and Emergency Department. The following are appropriate approaches except:

a. Adopt a non-confrontational approach
b. Advise patient to sit near the door
c. Minimise eye contact
d. Leave the examination door open
e. Lower your own voice

Answer:
In this scenario, the psychiatrist should sit near the door to ensure there is an escape route. This will allow the psychiatrist to mobilise resources easily. If the patient sits near the door, he or she can make the psychiatrist a hostage by blocking the exit.

3. Which of the following statements about the mental state examination is correct?

a. During the mental state examination, a psychiatrist should ask a large range of psychopathologies to cover every diagnostic possibility
b. During the mental state examination, probing questions about psychopathology are best framed with technical questions
c. Mental state examination is best conducted as a formal exercise following a schema
d. Serial mental state interrogations are an extremely reliable method of judging the progress of treatment or changes in patient's mental health
e. The best clinical approach to the mental state examination is a conversational and informal manner

Answer:
The best clinical approach to the mental state examination is a conversational and informal manner. The best clinical approach to the mental state examination is a conversational and informal manner. Unskilled interviewers often conduct the mental state examination as a rigid schema with a lot of technical questions. This will prevent the patient from opening up and volunteering new information. This also explains why option D is incorrect. Option A is incorrect because the psychiatrist should focus on possible psychopathology based on information obtained via history taking. Option B is incorrect because probing questions about psychopathology are best framed with reference to activities and ideas that are familiar to the patient. Option D is incorrect because serial interrogations are unreliable methods of judging the progress of treatment or changes in patient's mental health.

EMIS

Clinical Interview

1. "I am sorry that you are feeling this way."

a. Circular questioning
b. Clarification
c. Closed questioning
d. Confrontation
e. Empathy
f. Interpretation
g. Open questioning
h. Recapitulation
i. Summation
j. Sympathy

2. "So you have continued using sleeping pills despite your former decision to stop."

a. Circular questioning
b. Clarification
c. Closed questioning
d. Confrontation
e. Empathy
f. Interpretation
g. Open questioning
h. Recapitulation
i. Summation
j. Sympathy

3. “I understand that you are very frustrated with your father. I am wondering if you blame him for all that has happened to you.”

a. Circular questioning
b. Clarification
c. Closed questioning
d. Confrontation
e. Empathy
f. Interpretation
g. Open questioning
h. Recapitulation
i. Summation
j. Sympathy

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Chapter 3
Schizophrenia & Related Disorders

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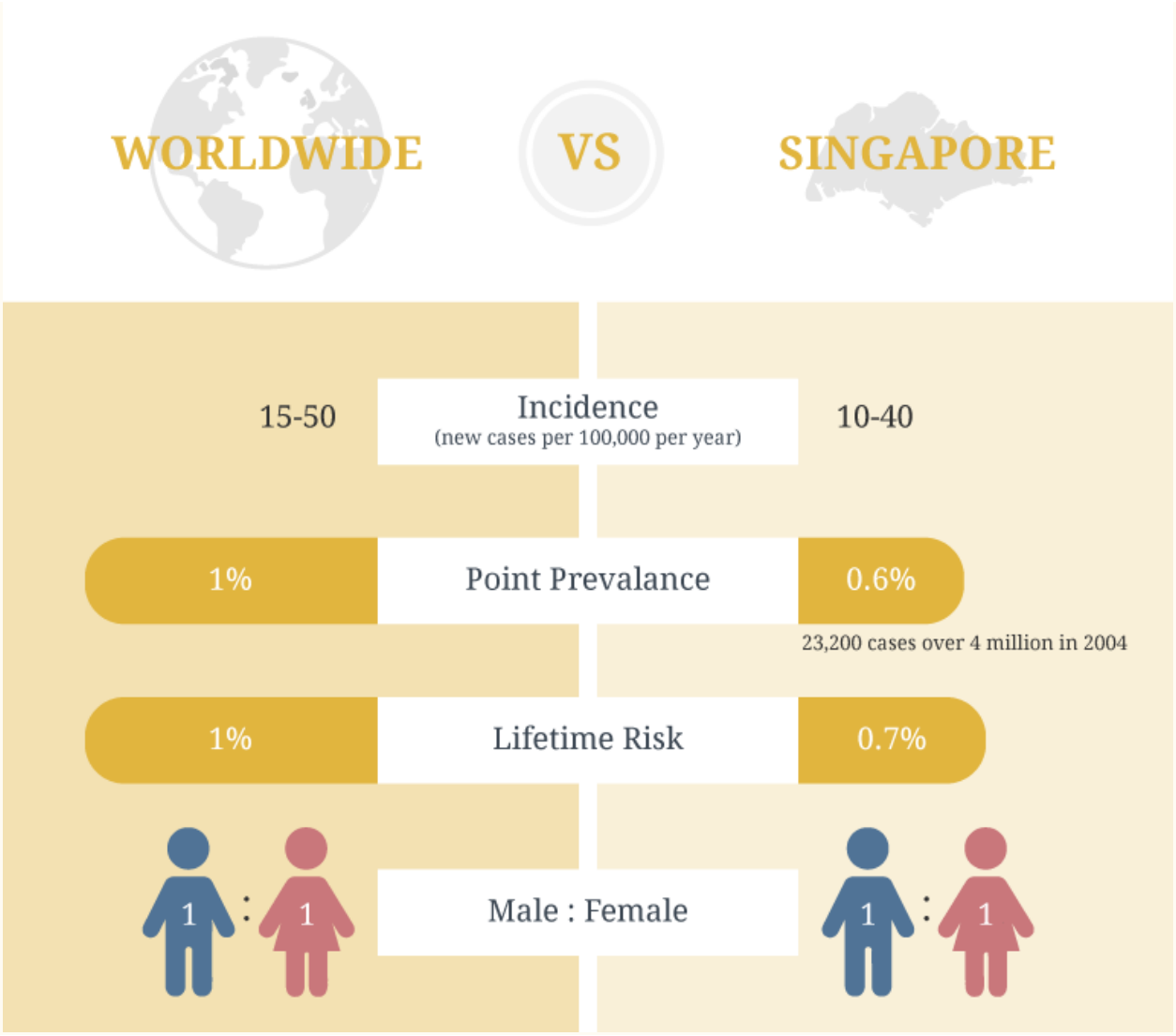
3.1 Schizophrenia

Schizophrenia is a mental illness which affects cognition, emotion and perception, and is characterised by positive symptoms (the presence of mental features not normally present, such as delusions and hallucinations), negative symptoms (those which reflect a dimunition or loss of normal emotional and psychological function, such as affective flattening, alogia, avolition, anhedonia and asociality), cognitive symptoms (such as impairment in attention, reasoning and judgement), and disorganised symptoms (including disturbances in thinking, speech, behaviour, and incongruous affect).

3.1.1 Epidemiology

Figure 3.1 *Epidemiology of Schizophrenia*



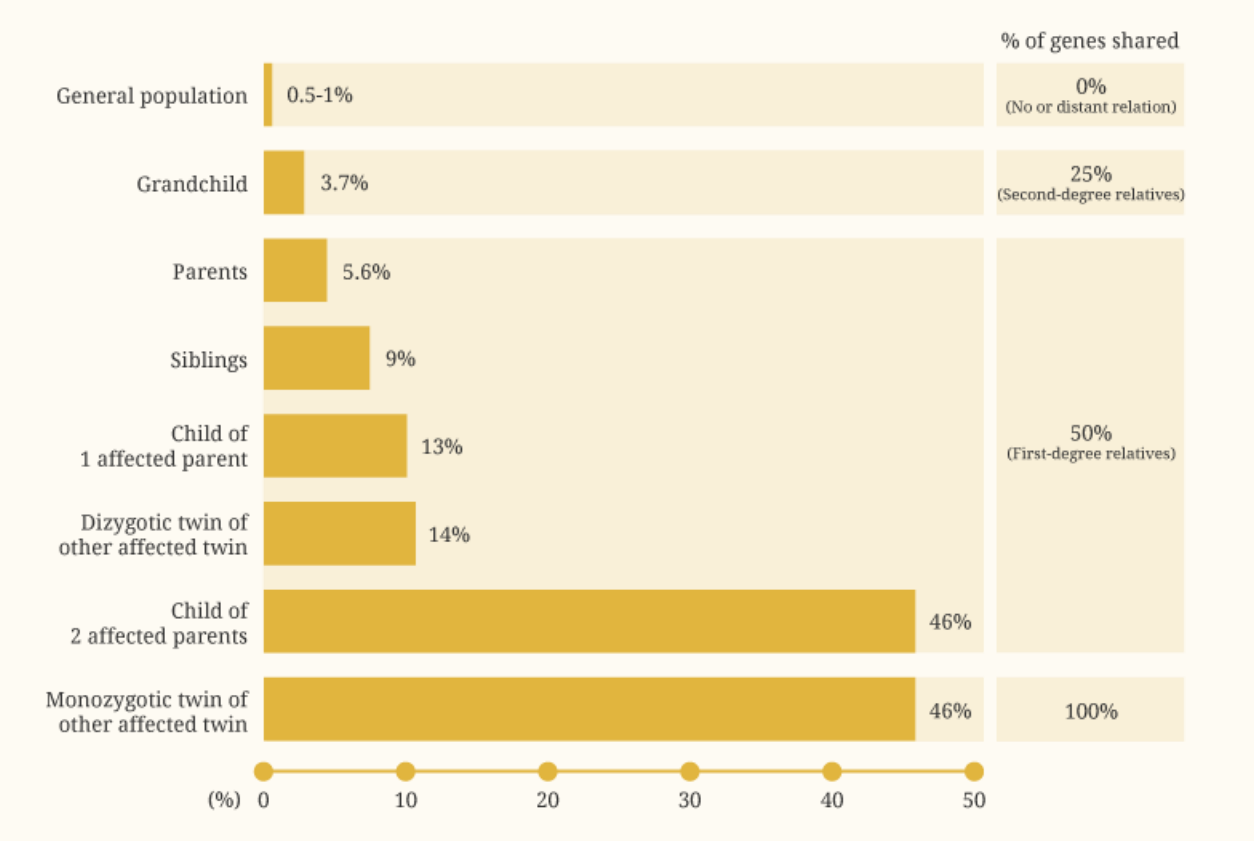
3.1.2 Aetiology

Risk Factors

Genetics

The most important risk factor is that of a family history of schizophrenia. Individuals in the general population have 0.5-1.0% risk of developing schizophrenia. First-degree relatives of a schizophrenia patient have 10% risk. Genes such as Neuregulin 1 gene on chromosome 8, dysbindin gene on chromosome 8 and chromosome 22q11 (velo-cardio-facial syndrome) are all implicated in the aetiology of schizophrenia.

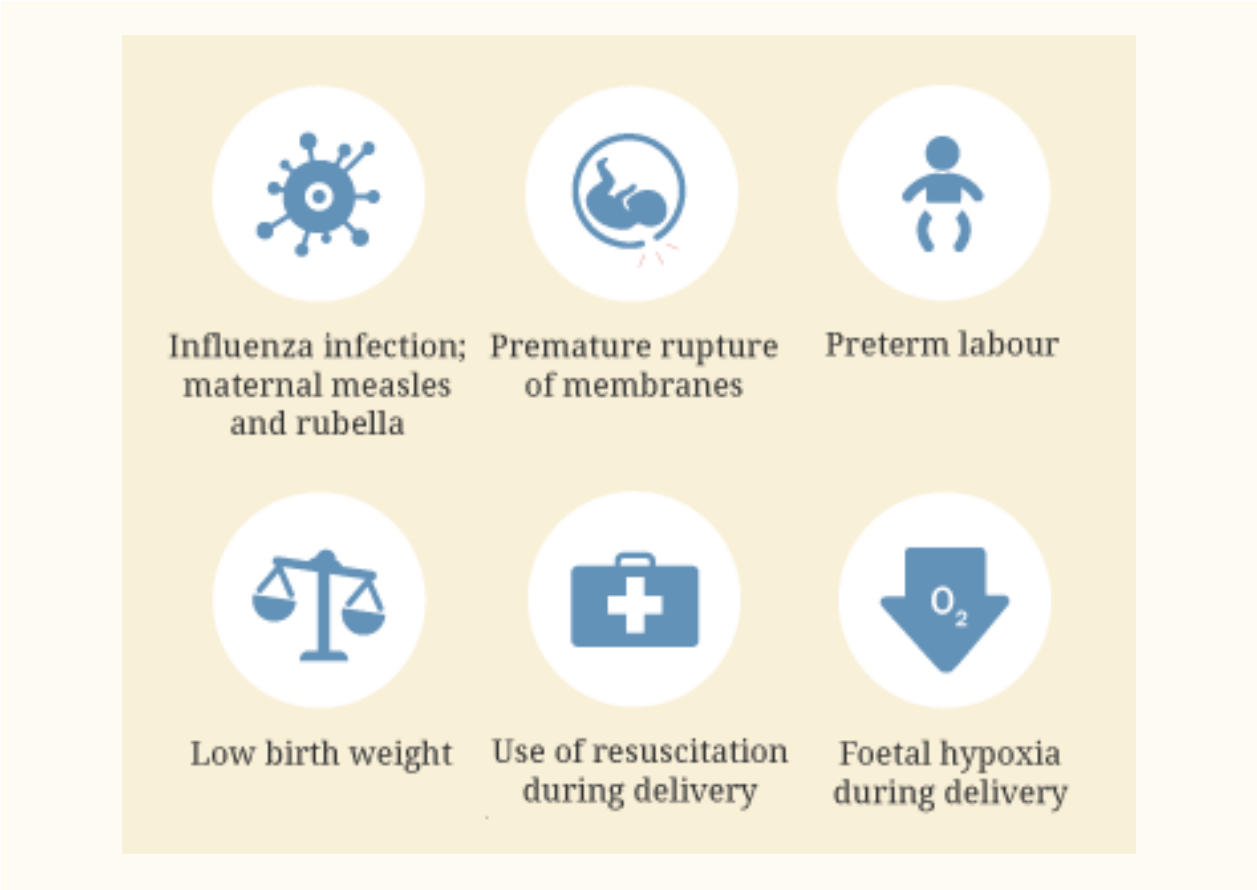
Figure 3.2 *Prevalence of Schizophenia Among Relatives of Schizophrenia Patients*



Antenatal / Perinatal

Influenza infection as well as maternal measles and rubella infection are associated with the development of schizophrenia. Other factors, such as premature rupture of membranes, preterm labour, low birth weight as well as the usage of resuscitation during delivery are significantly associated with schizophrenia. Of significance, foetal hypoxia during delivery is predictive of reduce grey matter throughout the cortex in individuals with schizophrenia, but not in controls.

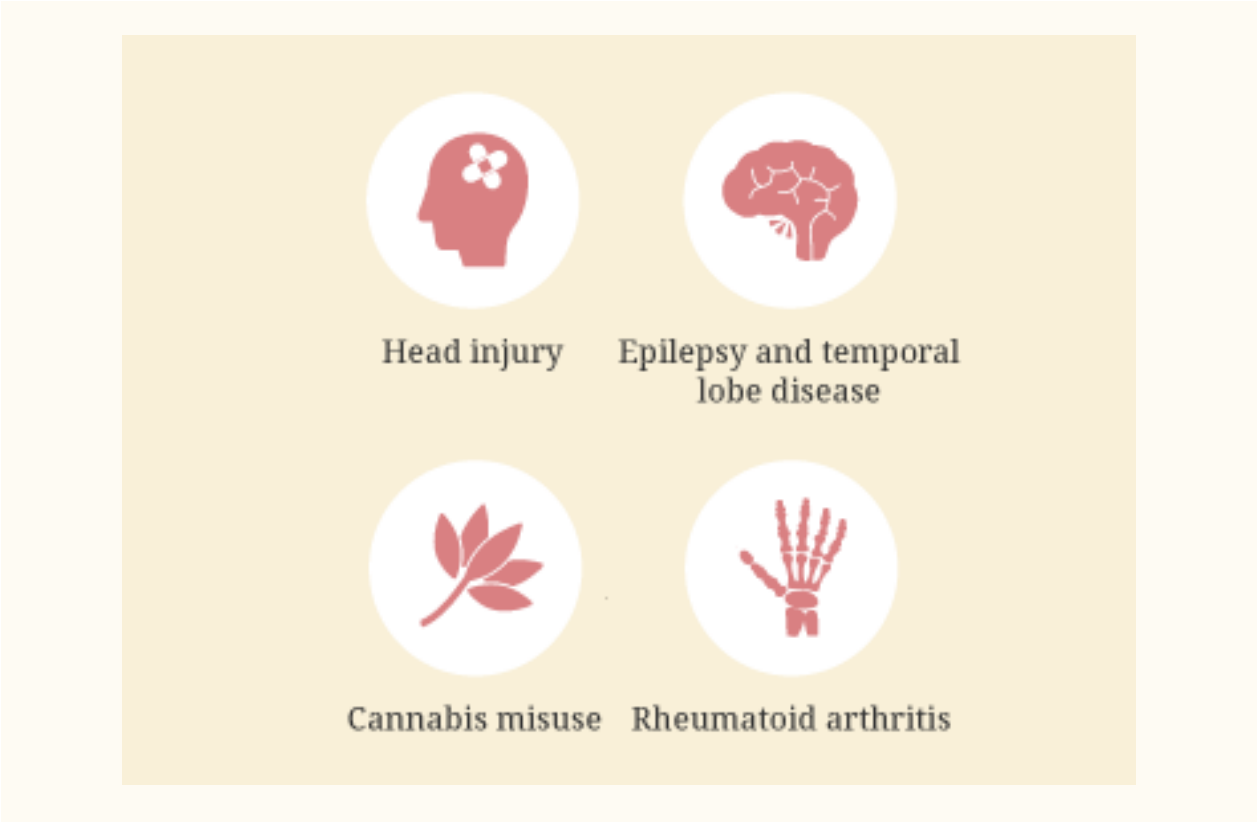
Figure 3.3 *Antenatal/Perinatal Risk Factors*



Biological

Biological factors include that of head injury, which is associated with paranoid schizophrenia. Epilepsy and temporal lobe disease are common causative factors as well. In addition, the misuse of cannabis, may increase the risk of schizophrenia in individuals who are homozygous for VAL/VAL alleles in the COMT genotype. Rheumatoid arthritis is a protective factor and it reduces the risk to 1/3 that of the general population.

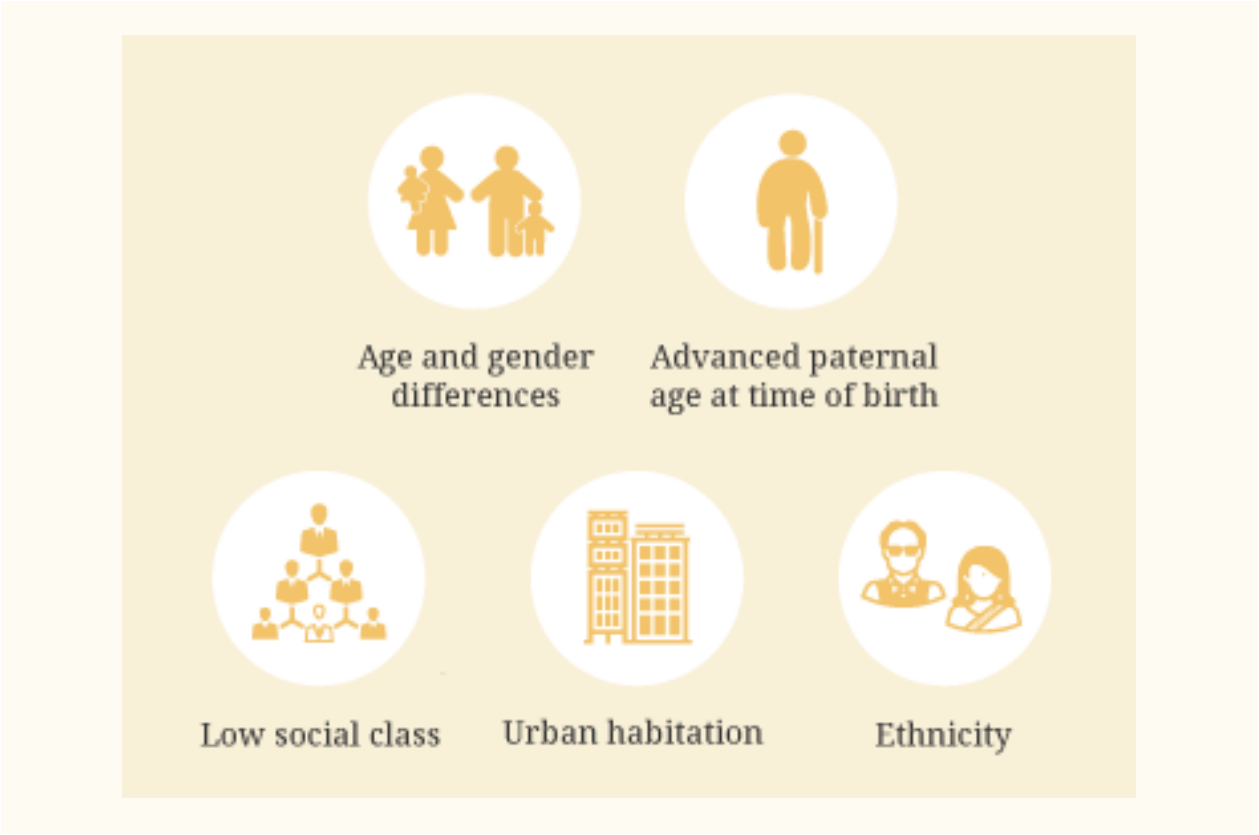
Figure 3.4 *Biological Risk Factors*



Demographic

Male schizophrenia patients tend to have more severe disease, early onset of the disease and more associated structural brain diseases and worst premorbid adjustment as compared to that of female patients. The advanced paternal age at the time of birth is also a risk factor for the offspring to develop schizophrenia. The social class hypothesis is controversial as to whether low social class is caused by schizophrenia or is an effect of the course and the nature of the disorder. Breeder hypothesis suggest that socio-economic adversity precipitates schizophrenia in genetically vulnerable individuals. Social drift explanation mentions that those individuals who have an underlying predisposition to schizophrenia are more likely to drift down the social strata. There is a higher prevalence of schizophrenia In urban areas as compared to rural areas due largely to the interaction of genetic factors, migration, higher rates of social deprivation, increased social problems and favourable outcomes in non-industrialised countries. Of importance, Afro-Carribean immigrants to the United Kingdom have a higher risk of schizophrenia even in the second generation.

Figure 3.5 *Demographic Risk Factors*



Psychological

Some of the risk factors include that of stressful life events, which tend to precipitate first episode psychosis. The presence of high expressed emotions in the family, characterized by over-involvement, critical comments and hostility from family members more than 33 hours per week does increase the risk of relapse of schizophrenia.

Figure 3.6 *Psychological Risk Factors*

3.1.3 Neurobiology

Neurodevelopmental Theory

Figure 3.7 *Neurodevelopmental Theory of Schizophrenia*

Intrauterine period

Genetic, antenatal and perinatal risk factors cause a disturbance in which the normal pattern of programmed cell death is compromised, leading to a defect in the normal orderly migration of neurons toward the cortical plate, causing serious consequences for the establishment of normal cortical connections

Childhood and adolescence

Constellation of early signs in childhood including abnormal eye (saccadic) tracking movements, neuropsychological deficits, soft neurological signs (e.g. clumsiness, in-coordination or non-specific EEG changes) and abnormal behaviours

Young adulthood

Classical schizophrenic symptoms emerge as a result of accumulated intracerebral pathology and spatial disarray of neurons when the human brain reaches a certain level of maturity

Gross pathological changes in schizophrenia

- Atrophy of the prefrontal cortex and temporal lobe (core psychopathological feature: disturbed neural network in the prefrontal and medial temporal lobes)
- Morphological abnormalities in the corpus callosum
- Increased ventricular size at commencement of disease (CT changes in the third and lateral ventricles and the temporal horns)
- Reduction in thalamus and overall brain volume

Histological changes in schizophrenia

- Cellular loss in the hippocampus
- Reduction of the number of medio-dorsal thalamic neurons
- Reduced neuronal density in the prefrontal, cingulate and motor cortex
- Abnormal patterns of myelination in the hippocampus and temporal lobes as a result of abnormal migration, abnormally sized neurons

Neurochemical abnormalities

The dopamine hypothesis states that there is increased dopamine in the mesolimbic pathway and the increased levels of dopamine cause schizophrenia.

Two serotonin pathways are affected in schizophrenia, which are namely the projections from the dorsal raphe nuclei to the substantia nigra and the projections from the rostral nuclei ascending into the cerebral cortex, the limbic regions and the basal ganglia. Agonism of the 5HT2A receptor inhibits dopamine release. Excess serotonin produced by the two pathways causes a reduction in the availability of dopamine which can give rise to negative symptoms of schizophrenia.

Second generation antipsychotics (e.g. risperidone) bind to D2, 5-HT2A and α2 adrenergic receptors in the brain and compete with serotonin and its antagonism at 5HT2A receptors, causing an increase in dopamine to relieve negative symptoms; second generation antipsychotics also block D2 receptors thus reducing positive symptoms simultaneously.

3.1.4 Clinical Features

Table 3.1 *Clinical Features of Schizophrenia*

Reality axis	
Hallucination	**Delusion**
1. Voices commenting 2. Voices discussing or arguing 3. Audible thoughts	1. Delusional perception 2. Persistent delusional beliefs are completely impossible

4. Other persistent hallucinations if occurring frequently or accompanied by delusional thinking or sustained overvalued idea	**Passivity/Delusion of control** 1. Will 2. Acts 3. Affect 4. Somatic passivity 5. Thought interference
Appearance-behaviour axis	
General Appearance	**Behaviour**
1. Patient may be unkempt; deterioration in self-care due to decline in occupation and social function	1. Catatonic behaviour 2. Social impairment
Thought-speech axis	
Thoughts	**Speech**
1. Thought insertion 2. Thought withdrawal 3. Thought broadcasting 4. Formal thought disorders (e.g. neologism)	1. Incoherent or irrelevant speech (formal thought disorder) 2. Paucity of speech (alogia)
Affect-interest axis	
Affect	**Interest**
1. Flat or inappropriate affect	1. Loss of interest (avolition), aimlessness, idleness, a self-absorbed attitude and social withdrawal over one year (simple schizophrenia)

Schneider's First Rank Symptoms of Schizophrenia

- Auditory hallucinations
  - 2nd or 3rd person
  - Thought echo, running commentary, voices discussing patient
- Delusions of thought interference
  - Thought broadcasting, insertion and withdrawal
- Delusion of control and passivity
- Delusional perception

First rank symptoms (ABCD)

Auditory hallucinations
Broadcasting, insertion, withdrawal
Control, passivity
Delusional perception

DSM-5 Diagnostic Criteria: Schizophrenia

Presence of ≥ 2 of the following symptoms over a month period (at least one of which must be 1, 2 or 3), such that an individual's premorbid level of functioning is affected in several major domains of life:

1. Delusions
2. Hallucinations
3. Incoherent and disorganised speech
4. Disorganised or catatonic behaviour
5. Negative symptoms/diminished emotional expression

DSM-5 Diagnostic Criteria (ABCD)

(**D**elusions **H**erald **S**chizophrenic **B**ad **N**ews)
Delusions
Hallucinations
Speech abnomality
Behaviour disorganisation
Negative symptoms

There must be continuous impairment over a period of at least 6 months during which the individual might experience either active or residual symptoms. These symptoms must not be due to the effects of substance use or an underlying medical condition. Deterioration in occupational and social function is compulsory to make a diagnosis of schizophrenia.

Subtypes of Schizophrenia

Subtypes of schizophrenia which were previously present in the DSM-IV-TR have been removed from the DSM-5 classification due to limited diagnostic stability, validity and reliability. The clinically relevant subtypes of schizophrenia which one may still encounter based on the DSM-IV-TR include:

- **Paranoid** (best prognosis)
- **Disorganised**
- **Catatonic**
- **Undifferentiated**
- **Residual** (mainly presence of negative symptoms)

Schizophreniform Disorder

Presence of ≥ 2 of the following symptoms for a duration of between 1 to 6 months (at least one of which must be 1, 2 or 3):

1. Delusions
2. Hallucinations
3. Disorganised speech
4. Disorganised or catatonic behaviour
5. Negative symptoms

The clinician should have considered and ruled out the differentials of schizoaffective disorder and depressive or bipolar disorder with psychotic features.

Brief Psychosis

Presence of ≥ 2 of the following symptoms for a duration of between 1 day to 1 month (at least one of which must be 1, 2 or 3):

1. Delusions
2. Hallucinations
3. Disorganised speech
4. Grossly disorganised or catatonic behaviour

The individual should be able to return to premorbid functional level after the course of the illness. The clinician should have considered and ruled out differentials including schizophrenia, major depression or bipolar depression with psychotic features, and excluded the possibility of symptoms being due to underlying substance use or a medical condition.

Brief psychotic disorder could occur either in the presence or absence of stressors.

Catatonia associated with other mental disorders

DSM-5 diagnosis of catatonia is made when ≥ 3 of the following symptoms are present:

Table 3.2 *Criteria for DSM-5 Diagnosis of Catatonia*

Disorders of Movement	Disorders of Speech
• Stupor • Catalepsy • Waxy flexibility • Negativism • Posturing • Mannerism • Stereotypy • Grimacing • Echopraxia • Agitation not influenced by external stimuli	• Mutism • Echolalia

Other specified schizophrenia spectrum and psychotic disorders

This category of diagnosis is reserved for individuals presenting with symptoms characteristic of schizophrenia but who have not met the full diagnostic criteria.

Examples include:

- Sub-threshold psychotic syndrome
- Delusions with associated mood disorders
- Persistent auditory hallucinations in the absence of any other psychotic features

Schizotypal Disorder

Schizotypal disorder is considered to be a personality disorder but the DSM-5 also lists this disorder under schizophrenia. Patients must fulfil two core criteria of personality disorders, namely impairment in self and interpersonal functioning.

Psychogenic Polydipsia

5-20% of schizophrenic patients suffer from psychogenic polydipsia.

Table 3.3 *Differentials for Psychogenic Polydipsia*

	Urine volume	Urine osmolality	Urine sodium	Serum sodium
Nephrogenic diabetes insipidus	High	Low	Low	High
Psychogenic polydipsia	High	Low	Low	Low
Syndrome of Inappropriate Antidiuretic Hormone (SIADH)	Low	High	High	Low

3.1.5 Prognosis

Table 3.4 *Schizophrenia Prognosticating Factors*

Factors	Favourable Prognosis	Poor Prognosis
Demographics	• Female • Married	• Male • Single
Aetiology	• Precipitated by stressful life events • No past psychiatric history • No family history of affective illness	• Past psychiatric history • Family history of schizophrenia
Nature of illness	• Late onset of symptoms • Paranoid type • Positive symptoms	• Early onset • Negative symptoms.
Treatment	• Good response to treatment • Short duration of untreated psychosis	• Poor response to treatment • Long duration of untreated psychosis

3.1.6 OSCE Grid

Video 3.1 *Schizophrenia*
Video 3.2 *How to Elicit Symptoms for Psychosis*

Video 3.3 *First Rank Symptoms of Schizophrenia*

A 22-year-old university student is brought by his counsellor to the Accident and Emergency Department. He was seen by the psychiatrist at the University clinic and diagnosed to suffer from schizophrenia. You are the resident working in the Accident and Emergency Department.

Task: Take history to elicit first rank symptoms and other related symptoms to establish the diagnosis of schizophrenia.

Table 3.5 *OSCE Grid: Schizophrenia*

A) Assess hallucinations		
A1) Introduction	A2) Auditory hallucinations	A3) Other hallucinations
I gather that you have been through a lot of stress recently; when under stress sometimes people have certain unusual experiences. Have you had such experiences?	Do you hear voices when no one else is around? Do the voices speak directly to you (2nd person) or do they speak among themselves (3rd person)? What sort of things do the voices say? **E**choing: Do the voices repeat your thoughts? **A**rguing: Do the voices ever argue among themselves? **R**unning commentary: Do the voices describe or comment upon what you are doing or thinking? Do the voices tell you to do things?	Visual hallucinations: Have you ever had experiences during which you saw things that others could not see? Tactile hallucinations: Do you feel that there are strange sensations within you, as if something is crawling within your body? Olfactory/gustatory hallucinations: Have you ever had experiences during which you could smell or taste strange things that others did not experience?
B) Assess thought interferences		
B1) Thought insertion	B2) Thought withdrawal	B3) Thought broadcasting
Do you feel as if someone or something can put their thoughts into your mind?	Do you ever feel as if someone or something is taking your thoughts away from you?	Do other people know what you think in your mind? Do you feel that your thoughts are broadcasted to other people?

C) Delusions, insight, mood, substance misuse		
C1) Delusions of control or passivity	C2) Other delusions	C3) Insight and mood
Has there been any difficulty with feelings, actions or bodily sensations? Is there someone or something trying to control you in terms of your impulses (will), feelings (affect) or actions (volition)?	Persecution: Is there someone or something trying to harm you or make your life miserable? Reference: Do you think that someone is watching, following or spying on you? Do you think that other people are referring to you, for example in the newspapers or on television? Grandeur: Do you have any special powers or abilities that others do not have? Guilt: Do you feel like you deserve punishments for mistakes you have made in the past? What is the nature of the mistakes and punishment you deserve?	What do you think is the cause of these experiences? Could you be suffering from an illness in your mind?? Do you think treatment would help to reduce these experiences? What is your mood like? Do you feel sad? When you feel sad, do you have thoughts of harming yourself or ending your life? When some people are stressed they might use recreational drugs. Do you have such experiences?
D) Assess negative symptoms and functional disturbance		
D1) Apathy	D2) Anhedonia	D3) Social and academic deterioration
Do you encounter any difficulty in looking after yourself? How often do you tend to take a shower or a bath? Has anyone complained about the state of your room? Is it difficult to stay tidy or to keep your room the way you would like it?	Have you spent any time with friends lately? Do you find it difficult to feel emotionally close to others? What were your main hobbies or interests in the past? Do you still enjoy doing these things?	How has your academic performance been recently? Are you able to concentrate on studies? Do you feel that your academic performance is not as good as it used to be? How long has it been?

Risk Assessment and Schizophrenia

Violence in people with schizophrenia is uncommon but they do have a higher risk than the general population. Prevalence of recent aggressive behaviour among outpatients with schizophrenia is around 5%. The types of violence and aggression are classified as follows: verbal aggression (~45%), physical violence towards objects (~30%), violence towards others (~20%) and self-directed violence (~10%). Family members are involved in 50% of assaults with strangers being attacked in 20%. Doctors therefore need to be competent in identifying patients at risk, and protecting both patients and others.

3.1.7 Physical Examination and Investigations

Physical Examination

- Vital signs (heart rate, temperature)
- Body mass index (to rule out metabolic syndrome and guide choice of medication)
- Neurological examination
- Physical signs suggesting substance misuse (e.g. injection marks)

Investigations

- FBC, LFT, U/E/Cr, TFT, fasting lipids and glucose, β-hcg (to rule out pregnancy in women of childbearing age), toxicology screen, ECG (prolonged QT_c invterval)
- Optional: prolactin (if there is galactorrhoea)
- CT or MRI brain
- Urine drug screen (to rule out recent use of recreational drugs)
- EEG (if suspecting temporal lobe epilepsy)

Questionnaire

- Positive and negative syndrome scale for schizophrenia (PANSS)
- 30-item semi-structured interview to assess positive symptoms (7 items), negative symptoms (7 items) and global psychopathology (16 items); severity of individual items is scored according to manual

Differential Diagnoses

Initial management involves establishing diagnosis and ruling out psychoses that could be secondary to physical morbidity or substance use (MOH guidelines 2011). Differentials include:

1. Misuse of substances such as alcohol, stimulants, hallucinogens, glues or sympathomimetics
2. Medications including steroids, anticholinergics and anti-parkinson drugs
3. General medical conditions including CVA, CNS infection, CNS tumours, temporal lobe epilepsy, metabolic abnormalities (vitamin B_{12} deficiencies, thiamine deficiencies), head injury, SLE, acute intermittent porphyria, and endocrine abnormalities related to thyroid and adrenal glands
4. Severe depression or mania with psychotic features
5. Delusional disorders
6. Dementia and delirium
7. Paranoid or schizotypal personality disorders

3.1.8 Management

Table 3.6 *Management Principles of Schizophrenia*

Acute phase	1. Prevent harm by hospitalisation. 2. Reduce aggression and threat by rapid tranquilisation (oral lorazepam 1 to 2mg stat, olanzapine zydis 10mg stat or risperidone quicklet 1-2mg stat; if patient refuses oral medication, consider IM lorazepam 2mg stat, and/or IM haloperidol 5-10mg stat). 3. Reduce acute symptoms with regular oral antipsychotics. Start at a low dose and titrate upwards over 2 weeks. Choice of antipsychotics is based on risk:benefit ratio and patient's preference after explanation of various options. Monitor closely for 2 months to assess effectiveness.
Initial treatment	1. The patient's social supports, level of functioning and relative risk of self-harm or harm to others must be evaluated for choice of treatment setting. 2. People newly diagnosed with schizophrenia should be offered oral antipsychotic medication. The recommended optimal oral dose of antipsychotics is 300-1,000 mg chlorpromazine equivalent daily for an adequate duration of 4-6 weeks. 3. If there is inadequate response by 4-6 weeks or if the patient develops intolerable side effects, the medication should be reviewed and another typical or atypical antipsychotics should be used. 4. Long-acting depot antipsychotics should not be used for acute episodes because it may take 3-6 months for these medications to reach a stable steady state. 5. Electroconvulsive therapy should be considered for patients who have not responded to an adequate trial of antipsychotics, and for patients with life threatening symptoms such as catatonia and prominent depressive symptoms.
Stabilisation phase	1. Offer psychoeducation to enhance knowledge of illness. 2. Minimize the likelihood of relapse by ensuring compliance to medications. Long-acting depot (e.g. IM fluanxol, clopixol). antipsychotics may be indicated in patients in whom treatment adherence is an issue, or when a patient expresses a preference for such treatment. Reduce expressed emotion by family intervention. 3. Enhance adaptation and coping to social and occupational disturbances with rehabilitation and occupational therapy. 4. Facilitate continued reduction in symptoms and promote the process of recovery by psychological interventions e.g. cognitive behaviour therapy and problem solving therapy. 5. Antidepressants should be considered if depressive symptoms emerge during the stable phase of schizophrenia (post-psychotic depression). Antidepressants should be used at the same dose as for treatment of major depressive disorder.
Maintenance phase	1. Ensure symptom remission or control by the lowest effective dose of antipsychotics, which should not be lower than half of the effective dose during the acute phase. 2. Monitor and manage adverse effects related to antipsychotics.

3. Regular follow-up with a psychiatrist is advised.
4. For patients with poor social support, refer to the community psychiatric team for home visit.
5. Oral antipsychotics should be used as first-line treatment for patients with an acute relapse of schizophrenia.
6. Patients receiving atypical antipsychotics should be regularly monitored for metabolic side effects.
7. Treatment options for schizophrenic patients who are pregnant should be individualised, taking into consideration severity of previous episodes, previous response to treatment and patient preferences. Abrupt cessation of medications should be avoided.

3.2 Antipsychotics

There are two types of antipsychotics. First generation antipsychotics are dopamine receptor antagonists. Common examples include haloperidol, chlorpromazine and trifluperazine. Second generation antipsychotics are serotonin and dopamine receptor antagonists. Common examples include risperidone, quetiapine, olanzapine and paliperidone. New antipsychotic drugs include aripiprazole which is a partial dopamine and serotonin receptor agonist and antagonist, depending on the level of dopamine in the brain.

3.2.1 Common Adverse Effects

Table 3.7 *High and Low Risk Adverse Effects of First Generation Antipsychotics*

First Generation Antipsychotics	Most likely / High risk	Least likely / Low risk
All first generation antipsychotics	1. Young men at highest risk of acute dystonia 2. Elderly women at highest risk of tardive dyskinesia	Nil
Haloperidol	1. Extrapyramidal side effects 2. Galactorrhoea	1. Weight gain 2. Postural hypotension 3. Sedation
Trifluoperazine	Nil	1. Weight gain 2. Postural hypotension
Sulpiride	Nil	1. Weight gain 2. Postural hypotension 3. Sedation

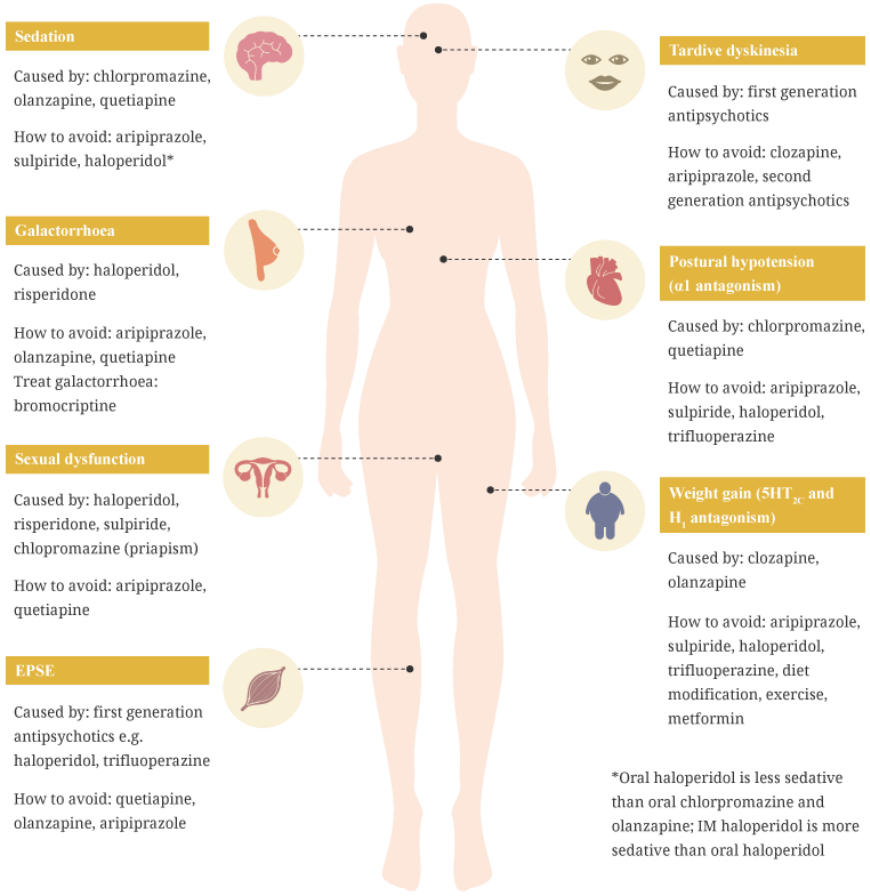
First Generation Antipsychotics	Most likely / High risk	Least likely / Low risk
Clozapine	1. Sedation 2. Hypersalivation 3. Weight gain	1. Tardive dyskinesia (least likely among all antipsychotics)

Table 3.8 *High and Low Risk Adverse Effects of Second Generation Antipsychotics*

Second Generation Antipsychotics	Most likely / High risk	Least likely / Low risk
Risperidone	1. Extrapyramidal side effects (EPSE) 2. Galactorrhoea (relative to other second generation antipsychotics)	1. Sedation
Olanzapine	1. Weight gain (highest risk among all antipsychotics)	1. EPSE 2. Hyperprolactinaemia 3. QT_c prolongation
Quetiapine	1. Anticholinergic effects (due to high affinity for muscarinic receptors) 2. Postual hypotension	1. EPSE (least likely) 2. Sexual dysfunction (least likely) 3. Hyperprolactinaemia
Aripiprazole (abilify)	1. Akathisia	1. QT_c prolongation (least likely) 2. Sexual dysfunction 3. EPSE 4. Dyslipidaemia, weight gain, glucose intolerance 5. Hyperprolactinaemia 6. Postural hypotension 7. Sedation
Brexpiprazole (rexulti)		Same as aripriprazole
Lurasidone		Same as aripriprazole

3.2.2 Alternatives

Figure 3.8 *Common Side Effects of Antipsychotics and Best Alternatives*


Sedation
Caused by: chlorpromazine, olanzapine, quetiapine
How to avoid: aripiprazole, sulpiride, haloperidol*
Galactorrhoea
Caused by: haloperidol, risperidone
How to avoid: aripiprazole, olanzapine, quetiapine
Treat galactorrhoea: bromocriptine
Sexual dysfunction
Caused by: haloperidol, risperidone, sulpiride, chlopromazine (priapism)
How to avoid: aripiprazole, quetiapine
EPSE
Caused by: first generation antipsychotics e.g. haloperidol, trifluoperazine
How to avoid: quetiapine, olanzapine, aripiprazole
Tardive dyskinesia
Caused by: first generation antipsychotics
How to avoid: clozapine, aripiprazole, second generation antipsychotics
Postural hypotension (α1 antagonism)
Caused by: chlorpromazine, quetiapine
How to avoid: aripiprazole, sulpiride, haloperidol, trifluoperazine
Weight gain (5HT2C and H1 antagonism)
Caused by: clozapine, olanzapine
How to avoid: aripiprazole, sulpiride, haloperidol, trifluoperazine, diet modification, exercise, metformin
*Oral haloperidol is less sedative than oral chlorpromazine and olanzapine; IM haloperidol is more sedative than oral haloperidol

3.2.3 First Generation Antipsychotics

Table 3.9 *Characteristics of First Generation Antipsychotics*

Indications	• Schizophrenia • Schizoaffective disorder • Substance induced psychosis • Personality disorder with psychotic features • Affective disorders • Tourette syndrome • Huntington disease • Nausea, emesis, hiccups
Contraindications	• Parkinson disease • Lewy body dementia • Elderly prone to developing extrapyramidal side effects

Mechanism of Action	• Symptom control: mesolimbic dopamine blockade is thought to be the most important factor for control of positive psychotic symptoms • Receptor occupancy: PET studies have shown 65-90% occupancy of brain D2 receptors after normal antipsychotic doses
Side effects	**Neurological:** 1. **Extrapyramidal symptoms** (due to blockade of D2 receptors in the basal ganglia) 2. **Tardive dyskinesia** (due to D2 receptor hypersensitivity) 3. **Drowsiness** (due to antihistamine activity) 4. **Secondary negative symptoms**: indifference to the environment, behavioural inhibition and diminished emotional responsiveness (due to dopamine antagonism in the mesocortical pathway) 5. **Memory impairments** (due to antimuscarinic effects and dopamine blockade in the cortex) 6. Impairments in **cognitive** and **psychomotor functions** occur after acute treatment in both healthy volunteers and patients; chronic treatment does not cause any significant impairment on psychometric tests or psychomotor performance 7. **Fine motor incoordination** (due to nigrostriatal blockade) **Endocrinological:** 1. **Galactorrhoea** (due to dopamine antagonism in the tuberoinfundibular pathway; plasma neuroleptic levels correlate with increased prolactin) 2. **Falsely-positive urine pregnancy test** 3. **Weight gain** 4. **Secondary amenorrhoea** 5. **Unilateral gynaecomastia** **Allergic:** 1. **Contact dermatitis** 2. **Lens opacities** 3. **Cholestatic jaundice** 4. **Optic neuritis** 5. **Aplastic anaemia** **Haematological:** 1. **Transient leucopaenia** 2. **Agranulocytosis**
Drug interactions	First generation antipsychotics e.g. phenothiazines: • Potentiate the depressant action of antihistamine, alcohol, GA and benzodiazepine • Increase analgesic effects of opiates

	• Cause a marked increase in intracellular lithium • Antagonise the dopaminergic effect of anti-parkinsonian drugs Phenothiazines are protein bound; care must be taken when administered with other highly protein-bound medications (e.g. warfarin, digoxin, theophylline) and potent 2D6 inhibitors (e.g. fluoxetine, paroxetine, cimetidine and erythromycin)

Table 3.10 *Chlorpromazine*

Class	Phenothiazine with aliphatic side chain
Dose	100mg to 800mg/day
Indications	Schizophrenia
Contraindications	• Cholestatic jaundice • Addison disease • Myasthenia gravis • Glaucoma • Bone marrow suppression
Mechanism of action	• Anticholinergic, anti-Î±-adrenergic and antihistaminergic actions • At a dose of 100mg twice daily, chlorpromazine exhibits 80% dopamine D2 receptor occupancy • $T_{1/2}$ = 16-30 hours
Side effects	• Most sedative first generation antipsychotic • Cataract (↑risk by 3-to-4 fold), miosis, weight gain, increased duration of SWS, galactorrhoea, haemolytic anaemia or agranulocytosis, leucocytosis or leucopenia, cholestatic jaundice (hypersensitivity reaction), quinidine-like side effect (prolonged QTc interval, ↓ST and ↓T wave blunting), photosensitive rash and hyperglycaemia • Priapism: alpha-receptor antagonism unopposed by cholinergic stimulation may be the underlying mechanism • Antihistaminergic side effects > anticholinergic side effects = extrapyramidal side effects (EPSE)

Table 3.11 *Trifluoperazine*

Class	Phenothiazine with piperizine side chain
Dose	5mg to 15mg/day
Indications	Psychosis
Mechanism of action	• Increased D2 blockade and reduces affinity to muscarinic α-adrenergic and histaminergic receptors • $T_{1/2}$ = 10-20 hours
Side effects	• More likely to cause EPSE • EPSE > anticholinergic = antihistaminergic side effects.

Table 3.12 *Haloperidol*

Class	Butyrophenone
Dose	5mg to 10mg/day
Indications	• Positive symptoms of schizophrenia. • Delirium • Rapid tranquillisation (IM) • Covert tranquilisation (liquid formulation) • Tourette syndrome
Contraindications	• Parkinson disease • Lewy body dementia
Mechanism of action	• Very potent D2 blocker; lowers level of activity within the nigrostriatal pathway • Little antimuscarinic, antihistaminergic and anti-adrenergic activity • $T_{1/2}$ = 10-30hours
Side effects	High doses often lead to EPSE, akathisia and akinesia

Table 3.13 *Sulpiride*

Class	Substituted benzamine
Dose	200mg to 800mg/day
Indications	Schizophrenic patients unable to tolerate EPSE associated with other first generation antipsychotics
Contraindications	• Renal failure • Acute porphyria
Mechanism of action	• Selective antagonist at D2 and D3 receptors • $T_{1/2}$ = 7 hours
Side effects	• Hyperprolactinaemia • Dry mouth, sweating, nausea

Table 3.14 *Flupenthixol*

Class	Thioxanthene
Dose	IM 20mg once per month
Indications	Depot antipsychotic for people with schizophrenia who are non-compliant to oral medication
Contraindications	Not recommended as a first-line treatment for depression (although some patients find it useful)
Mechanism of action	• Antipsychotic effect; low doses may have antidepressant effects. • $T_{1/2}$ = 10-20 hours

Side effects	• Acute dystonia • EPSE • Long term use may lead to tardive dyskinesia

3.2.4 Second Generation Antipsychotics

Table 3.15 *Risperidone*

Class	Benzisoxazole
Dose	• 1mg to 6mg/day (tab) • 37.5mg to 50mg every 2 weeks (Riperdal consta IM depot)
Indications	• Schizophrenia: 1-2mg is the minimum effective dose for the first episode and 4mg for relapse • Bipolar disorder: mania. • Behavioural problems in dementia and autism • Covert administration (droplet formulation)
Contraindications	Patients who have previously reported EPSE with risperidone
Mechanism of action	• D2-like high-affinity antagonist of 5-HT_2 • α-Adrenergic antagonism • Allows more dopaminergic transmission compared to conventional antipsychotics because the normal inhibitory action of serotonin on dopamine neurons is inhibited due to antagonism of the 5HT2A heteroreceptor • Affinity of risperidone for D2 receptors is approximately 50-fold greater than that of clozapine and 20%-50% of haloperidol. • $T_{1/2}$ = 3-20 hours
Side effects	• At higher doses: hyperprolactinaemia and EPSEs (At a low dose range of 2-6 mg, EPSE is reduced; higher doses give an EPSE profile approaching that of a first-generation agent) • Insomnia, dizziness, anxiety, menstrual disturbances, weight gain

Table 3.16 *Olanzapine*

Class	Thienobenzodiazepine
Dose	5mg to 15mg/day
Indications	• Schizophrenia • Schizoaffective disorder • Bipolar mania • Rapid tranquilisation (olanzapine zydis: rapidly dissolvable form)
Contraindications	• Stroke • Diabetes mellitus • Obesity

	• Narrow angle glaucoma (due to anticholinergic effect)
Mechanism of action	• High affinity for D2 and 5HT2A but low affinity for D1 receptors • Similar chemical structure to clozapine, but only partially selective for D2 receptors (clozapine selectively binds to many different dopamine receptors) • $T_{1/2}$ = 21-54 hours • Smoking increases CYP1A2 activity and increases the metabolism of olanzapine. When a patient stops smoking, olanzapine metabolism reduces, they are more susceptible to side effects, and hence they may require a lower dose of olanzapine.
Side effects	• Weight gain • High risk of diabetes • Increased appetite • Sedation • Anticholinergic side effects: dry mouth and constipation • Dizziness • EPSE not absent all together but if they occur tend to be mild at relatively high levels of D2 occupancy. This occurs in association with high anticholinergic effect which may contribute to mitigation of EPSE. • Annual rate of tardive dyskinesia: 0.5%

Table 3.17 *Quetiapine*

Class	Dibenzothiazepine
Dose	200mg to 800mg/day
Indications	• Schizophrenia patients unable to tolerate EPSE • Parkinson disease patients who develop psychotic features after taking levodopa
Mechanism of action	• High affinity for muscarinic receptors • High affinity for 5-HT1A receptors may increase dopamine levels in the hypoactive mesocortical dopaminergic pathway and improve negative symptoms • Lower affinity for all receptors compared to clozapine • $T_{1/2}$ = 6 hours
Side effects	• Sedation (17.5%) • Dizziness (10%) • Constipation (9%) • Postural hypotension • No difference from placebo in terms of EPSE and prolactin level • Less weight gain compared to olanzapine and clozapine (clozapine = olanzapine > risperidone > quetiapine > ziprasidone)

Table 3.18 *Ziprasidone*

Dose	20 mg BD to 80mg BD
Indications	• Schizophrenia patients unable to tolerate weight gain • Schizophrenia patients concurrently taking warfarin
Mechanism of action	• Potent 5HT2A and D2 antagonist • Effects of ziprasidone on negative symptoms and possibly cognitive symptoms may also be related to its potent antagonism for 5-HT2A receptors • Also exhibits 5-HT1A agonism and inhibits the reuptake of noradrenaline and serotonin • $T_{1/2}$ = 7 hours
Side effects	• Overall effect of ziprasidone on movement disorder is no different from placebo • Produced only modest weight gain in short term (4- to 6-week) trials, with a median weight gain of 0.5kg • ECGs revealed a modest prolongation with ziprasidone treatment in short-term (4- and 6-week) trials

Table 3.19 *Aripiprazole*

Dose	10mg - 30mg/day
Indications	Schizophrenia patients who develop weight gain, metabolic syndrome, galactorrhoea, EPSE, or QTc prolongation associated with other antipsychotics
Mechanism of action	• D2 and 5-HT1A partial agonist • 5HT2A antagonist • High affinity for D3 receptors; moderate affinity for D4, 5HT2C, 5-HT7, adrenergic, and histaminergic receptors • No significant difference in outcomes compared to 1st and 2nd generation antipsychotics • $T_{1/2}$ = 74h to 94h (due to active metabolites)

Side effects	• Excellent safety and tolerability profile
	• Most common side effects include:
	  ○ Headache
	  ○ Insomnia
	  ○ Agitation
	  ○ Anxiety
	• Less likely to cause elevation in prolactin compared to other antipsychotics

Table 3.20 *Paliperidone*

Dose	6mg to 12mg per day
Indications	• Schizophrenia • Schizoaffective disorder • Patients with Tourette syndrome and concomitant liver impairment
Contraindications	Renal impairment; known to be substantially renally excreted
Mechanism of action	• Major active metabolite of risperidone • Potent 5HT2A and D2 antagonist • $T_{1/2}$ = 23 hours
Side effects	• EPSE • Akathisia • QTc prolongation • Hyperprolactinaemia • Metabolic syndrome • Increased seizure risk

Table 3.21 *Clozapine*

Class	Dibenzodiazepine
Dose	200mg to 450mg daily
Indications	• Treatment resistant schizophrenia despite the sequential use of adequate doses and durations of at least two different antipsychotics • Patients with severe tardive dyskinesia on first generation antipsychotics
Contraindications	• Potentially lethal blood dyscrasias if combined with carbamazepine or sulphonamides • If combined with lithium can increase the risk of seizure, confusion, dyskinesia and neuroleptic malignant syndrome (NMS)
Mechanism of action	• Higher antagonist affinity for non-dopamine than for dopamine receptor subtypes; moderate affinity for D2 receptors and a high affinity for 5-HT2A receptors • 5-HT1A partial antagonism with D2-like antagonism: may contribute not only to mitigation of EPSE but also to enhancement of prefrontal dopamine release and putative therapeutic effects • Hypersalivation: due to antagonism of α2-adrenergic receptors and agonism at the M4 receptor • $T_{1/2}$ = 6-26 hours
Side effects	• Pulmonary embolism: 1 in 4500 • Myocarditis: 1 in 1300 • Agranulocytosis: 1 in 10,000

- Patients require monitoring of full blood count on a weekly basis for the first 18 weeks after starting clozapine, then fortnightly until the end of the first year; thereafter monthly full blood count monitoring is required

- Neutropaenia: not dose-related, occurs in 1-2% of patients
- If temperature is above 38.5°C, consider withholding clozapine until fever subsides

- Weight gain, metabolic syndrome
- Hypotension, tachycardia, ST segment changes
- Hypersalivation, constipation, urinary incontinence

- Seizures (~15% in patients taking more than 600mg/day)
- First seizure necessitates a reduction in dose; second seizure requires addition of anticonvulsant e.g. sodium valproate

Agranulocytosis: absolute neutrophil count of <500/mm^3

Depot Antipsychotics

The Maudsley Prescribing Guidelines recommend the following steps to observe on prescription of antipsychotics:

1. First give a test dose: as depots are known to be long-acting, a test dose helps to determine if the patient is sensitive to the medication (either via development of EPSE or adverse reactions to the oil base)
2. Commence treatment at the lowest therapeutic dose
3. Administer depot at the longest possible duration
4. Adjustment of doses should be conducted after an adequate period of assessment

Table 3.23 *Depot Antipsychotics (adapted from The Maudsley Prescribing Guidelines in Psychiatry)*

Drug	Trade Name	Test Dose (mg)	Dose Range (mg/week)
Flupentixol decanote	Fluxanol	20mg	12.5-400
Fluphenazine decanoate	Modecate	12.5	6.25-50
Pipothiazine palmitate	Piportil	25	12.5-50
Zuclopenthixol decanoate	Clopixol	100	100-600
Risperidone microspheres	Risperidone consta	Test dose not required	12.5-25

3.2.5 Extrapyramidal Side Effects

Video 3.4 *Man Shaking Legs*

Table 3.24 *Extrapyramidal Side Effects and Tardive Dyskinesia*

Pseudoparkinsonism	Acute Dystonia	Akathisia	Tardive Dyskinesia
Incidence			
20%	10%	25-50%	5% after 1 year 20% after chronic treatment
Risk Factors			
Older women, particularly those with neurological damage; persists for many months.	1. Young men at highest risk 2. Commencing high potency antipsychotics in schizophrenia patients who are antipsychotic naïve	Acute forms related to rapid increases in antipsychotic dose	1. Elderly women with affective disorder, organic brain disorder and history of EPSE 2. Long exposure to antipsychotics 3. Precipitated by anticholinergics
Onset			
Develops gradually after a few weeks of use	Within a few hours of antipsychotic administration	Most commonly after the fifth day of initiation of dopamine receptor antagonists	
Symptoms			
Mimics Parkinson disease: akinesia, (generalised slowing and loss of movements, particularly involuntary movements of expression), rigidity, tremor Akinesia and rigidity develop more frequently than tremor	1. Oculogyric crisis (fixed upward/lateral gaze) 2. Torsion dystonia 3. Torticollis 4. Spasm of lips, tongue, face, throat muscles 5. Acute dyskinesia (involuntary movements): grimacing, exaggerated posturing, twisting of head/neck/jaw	1. Irritability 2. Feeling unsettled 3. Restlessness (may complain of needing to go out or try to leave without any reason)	1. Lip smacking 2. Chewing 3. ‘˜Fly-catching’ tongue protrusion 4. Choreiform pill-rolling hand movements 5. Pelvic thrusting 6. (due to supersensitivity of D2 receptors)

Pseudoparkinsonism	Acute Dystonia	Akathisia	Tardive Dyskinesia
	6. Trismus (dystonic reaction to antipsychotics affecting jaw muscles)		
Management			
1. Gradual dose reduction can reduce symptoms 2. Switch to second-generation antipsychotics 3. Anticholinergics (e.g. benzhexol 2mg BD) effective in reducing severity of EPSE	1. Intramuscular anticholinergics (e.g. IM benztropin 2mg stat) in oculogyric crisis and torsion dystonia	1. Anticholinergics (acute akathisia) 2. Benzodiazepines (chronic akathisia) 3. Propranolol (best-established treatment for either form of akathisia)	1. Switch to second-generation antipsychotics 2. Vitamin E

3.3 Psychosocial Interventions

Explain CBT

The following video will illustrate the core concepts underlying cognitive behavioural therapy.

Video 3.5 *Cognitive Behavioural Therapy*

Table 3.25 *Psychosocial Interventions and Their Principles (adapted from NICE [UK]/MOH [Singapore] Guidelines)*

Intervention	Principles
Psychoeducation	Early psychoeducation and family intervention should be offered to patients with schizophrenia and their families: 1. Main objective: to provide the patient with information about the illness, the range of treatments available and the effect of using recreational drugs such as amphetamines; inform patients on their choices 2. Psychoeducation for individuals with first episode of psychosis or schizophrenia to encourage blame-free acceptance of illness 3. Develop strategies to promote control of illness by recognising and responding to early warning signs and seeking professional advice

Intervention	Principles
Crisis Intervention	To support and assist the patient to recover and reorganise at times of relapse or major life events which overwhelm the patient's capacity to cope
Grief counselling	To work through losses from prior to illness onset and losses arising from disruption, disorganisation and disability associated with schizophrenia
Supportive psychotherapy	Refinement of individual supportive psychological treatments: targeted psychological treatments for specific symptoms or components of illness in the affected individual e.g. coping techniques to deal with psychotic symptoms
Cognitive behavioural therapy (CBT)	Administered in combination with routine care should be considered for patients with schizophrenia, particularly those with persistent negative and positive symptoms Components of CBT should involve: 1. Advising the patient to keep a record to monitor their own thoughts, feelings or behaviours with respect to their symptoms or recurrence of symptoms 2. Promoting alternative ways of coping with target symptoms 3. Reducing stress 4. Improving functioning 5. Reducing negative symptoms via activity scheduling Specific techniques targeting auditory hallucination: 1. Distraction: wearing headphones to focus attention away such that hallucinations are extinguished with decreased reactivity 2. Desensitization: describing, recording and recognising the connection between stressors and hallucinations and exploring what the voices mean to them The therapist should deliver CBT on a one-to-one basis over at least 16 planned sessions, following a treatment manual to help the patient establish links between their thoughts, feelings or actions and their current or past symptoms; this will help them re-evaluate their perceptions, beliefs and reasoning behind their target symptoms
Family intervention	Patients and their family members should be educated about the illness, its course and prognosis as well as the efficacy, anticipated side effects and costs of various medications. Family interventions should also incorporate support, problem-solving training and crisis intervention. 1. The therapist should include the service user if possible and offer at least 10 planned sessions over a period of 3 months to 1 year 2. Single-family intervention focusing on the “here and now” and family boundaries, coalitions, and triangulation is recommended, taking into account the relationship between the main carer and the service user 3. The therapist should establish a working relationship with the patient’s family and provide structure and stability

Intervention	Principles
	4. Cognitive techniques can be used to challenge unhelpful attributions e.g. guilt 5. Behavioural approaches include goal setting and problem-solving
Art therapy	The objectives of art therapy conducted by a registered art therapist include: 1. Helping people with schizophrenia experience themselves differently and develop new ways of relating to others 2. Expressing themselves and organising their experience into a satisfying aesthetic form 3. Accepting and understanding feelings which may emerge during the creative artwork process
Others	Manage comorbidities e.g. substance abuse, organised support groups for affected individuals and their families
Rehabilitation	**Psychiatric rehabilitation** Psychiatric disorders cause impairment (interference with the function of a system), disability (interference with the function of the person as a whole) and handicap (social disadvantages resulting from impairment and disability). Psychiatric rehabilitation aims to restore and improve function and maintain function at an optimal level, reducing impairment, disability and handicap. Common rehabilitation strategies include cognitive rehabilitation, training in independent living, use of community facilities, enhancing social interaction and psychoeducation. The severity of psychiatric symptoms may not always correlate to the success of rehabilitation. For example, a person suffering from schizophrenia with severe paranoid delusions may still be able to hold a job and maintain independence in his activities of daily living, while a person with schizophrenia whose symptoms are stable on medication, may decompensate in terms of social functioning in light of psychosocial neglect or stress. **Community Rehabilitation and Support Services (CRSS)** The CRSS programme for individuals with psychiatric disabilities started in January 2006; a community project of the Singapore Anglican Community Services (SACS) supported by the Ministry of Health (MOH) and the National Council of Social Service (NCSS), it involves a mobile team of professionals providing essential services to clients at their place of residence in the community. The objective of the CRSS programme is to enable people with psychiatric disabilities to live safely in the community, and meaningfully engage in work, studies or other activities or their choice. **Residential mental health centres** Some psychiatric patients discharged from inpatient psychiatric wards need to stay in a care centre for 1 to 6 months to prepare for integration into society. Please refer to Chapter 19: Community Psychiatry for an overview of rehabilitation options.

3.4 Related Disorders

The following disorders (e.g. early psychosis, catatonia, schizoaffective disorder, delusional disorder) may present with hallucinations and delusions.

3.4.1 Prodrome of Schizophrenia

'Prodrome' refers to a range of subjective experiences occurring prior to the onset of schizophrenia.

Positive symptoms

- Unusual perceptions
- Odd beliefs
- Vague and circumstantial speech
- Preoccupation with religion, occult and philosophy
- Suspiciousness
- Pre-psychotic anxiety
- Praecox feeling: clinician's intuition that the patient is odd

Negative symptoms

- Blunted affect
- Amotivation
- Isolation and social withdrawal

Cognitive symptoms

- Worsened academic, work or social functioning
- Worsened self-care
- Reduced attention and concentration

General symptoms

- Sleep disturbances e.g. initial insomnia
- Depressed mood
- Irritable mood
- Poor hygiene

Interventions

- Careful observation
- Consider differential diagnoses including organic causes
- Consider comorbidities such as substance abuse
- Aim to minimise risk of relapse

- Aim to eliminate exposure to cannabis and psychostimulants via psychoeducation, enhance stress management, and consider maintenance antipsychotic treatment
- Discuss treatment options such as commencement of antipsychotics and CBT

Prognosis

- 35% convert from prodrome to schizophrenia
- 70% able to achieve full remission within 3-4 months
- 80% achieve stable remission in one year

3.4.2 Catatonia

Causes

schizophrenia, severe depressive disorder, bipolar disorder, organic disorders (e.g. CNS infections, CNS tumour, cerebrovascular accident), severe recreational drug intoxication, lethal catatonia

Clinical features

ambitendency, automatic obedience (mitgehen, mitmachen), waxy flexibility/ catalepsy, negativism, stereotypy, mannerism, echolalia, echopraxia

Investigations

FBC, RFT, LFT, TFT, blood glucose, CK, urine drug screen, ECG, CT, MRI, EEG, urine/ blood culture, syphilis screen, HIV, heavy metal screen, auto-antibody screen, lumbar puncture

Management

- **Non-pharmacological:** hydration, early mobilisation, close monitoring, transferral to ICU if patient deteriorates, ECT if pharmacological treatment fails and symptoms are severe
- **Pharmacological:** benzodiazepines (e.g. IM lorazepam up to 4mg/day)

Prognosis

2/3 of patients improve after treatment

3.4.3 Schizoaffective Disorder

Epidemiology

- **Lifetime prevalence:** 0.05-0.08%
- **Gender prevalence:** F>M

Table 3.26 *Schizoaffective Disorder: ICD-10 and DSM-5 Criteria*

ICD-10	DSM-5
Schizophrenia and affective symptoms are prominent and occur in the same episode or within a few days of each other **Manic type:** mania (e.g. elation, irritability, aggression, high energy, flight of ideas, grandiosity); psychotic symptoms (e.g. thought interference, passivity, delusions of persecution) **Depressive type:** depression (e.g. low mood, psychomotor retardation, insomnia, guilt, hopelessness, suicidal thoughts); psychotic symptoms **Mixed type:** mixed depressive and manic symptoms; psychotic features	Presence of: 1. solely hallucinations or delusions for at least 2 weeks in the absence of an affective episode, throughout the entire duration of the psychiatric illness, and 2. an uninterrupted period with concurrent prominent affective symptoms and symptoms of schizophrenia Individuals should have symptoms fulfilling the diagnosis of an affective disorder for most of the illness duration. **Bipolar type:** a manic episode is part of the entire course of illness **Depressive type:** a major depressive episode is part of the entire course of the illness

Investigations

Same as in schizophrenia

Management

- **Psychotic symptoms:** antipsychotics (e.g. olanzapine has good mood stabilising effects)
- **Manic subtype:** mood stabilisers (e.g. lithium or carbamazepine)
- **Depressive subtype:** antidepressant (usually SSRI)
- **Poor response to pharmacological treatment:** ECT
- **Psychosocial treatments:** similar to schizophrenia

Prognosis

- Outcome intermediate between schizophrenia and affective disorders
- Manic subtype has a better prognosis than depressive subtype

3.4.4 Acute/Transient Psychotic Disorder

Epidemiology

- **Age of onset:** 20-30 years
- **Gender prevalence:** F>M

Aetiology

- Acute stressful life event e.g. disaster, bereavement, severe psychological trauma
- Underlying personality disorder: borderline, histrionic, paranoid, schizotypal
- Family history of mood disorders or schizophrenia

Table 3.27 *Acute/Transient Psychotic Disorder: ICD-10 and DSM-5 Criteria*

	ICD- 10	DSM-5
Onset	Acute: psychotic features occur within 2 weeks of stressful precipitant Abrupt: psychotic features occur within 48 hours of stressful precipitant	The following symptoms must be present for between 1 day to 1 month: 1. Delusions 2. Hallucinations 3. Disorganised speech 4. Grossly disorganised or catatonic behaviour
Precipitant	With or without stressful life event	With or without stressful life event Postpartum onset
Symptoms	Sudden change of a person's mental state from normal to psychotic **Sub-classification:** 1. **Acute polymorphic psychotic disorder** (variable hallucinations, delusions or emotions) **without symptoms of schizophrenia** 2. **Acute polymorphic psychotic disorder** (variable hallucinations, delusions, emotions) **with symptoms of schizophrenia** (less than 1 month of symptoms) 3. **Acute schizophrenia-like psychotic disorder** (stable hallucinations and delusions but less than 1 month of symptoms) 4. **Acute and predominantly delusional psychotic disorders** (duration < 3 months)	Present with delusions, hallucinations, disorganised speech, and disorganised or catatonic behaviour with return to premorbid function within 1 month. **Subclassification:** 1. **Brief reactive psychosis with marked stressor** 2. **Brief reactive psychosis without marked stressor** 3. **Brief reactive psychosis with postpartum onset**
Exclude	Schizophrenia, mania, depression, delirium, dementia, alcohol/drug intoxication	Mood disorder with psychotic features, schizoaffective disorder, schizophrenia, underlying substance abuse/medical conditions

Management

- Short-term use of low dose antipsychotic to control psychotic symptoms e.g. risperidone 1 to 2mg daily
- Short-term use of low dose benzodiazepines for sleep e.g. lorazepam 0.5mg
- Problem solving or supportive psychotherapy

Prognosis

- Complete recovery usually occurs within 2-3 months
- Relapse is common
- More acute/abrupt onset associated with better long-term outcome

3.4.5 Delusional Disorder

Video 3.6 *Delusional Disorder*

Epidemiology

- **Incidence:** 1-3 per 100,000
- **Point prevalence:** 0.03%
- **Lifetime risk:** 0.05-0.1%
- **Mean age of onset:** 35 years for men, 45 years for women
- **Gender prevalence:** F>M; erotomania more common in women

Aetiology

- **Genetic risk factors** e.g. family history of schizophrenia, delusional disorder, paranoid personality disorder.
- Main neurotransmitter: excessive dopamine
- Key neuroanatomical areas involved: basal ganglia, limbic system.
- **Cognitive theory:** proposes that delusions are caused by cognitive deficits, resulting in misinterpretation of external reality
- **Organic diseases**
    - **CNS disorders** (e.g. Parkinson disease, Huntington disease, subarachnoid haemorrhage, brain tumour)
    - **Degenerative disorders** (e.g. Alzheimer disease)
    - **Infectious diseases** (e.g. AIDS, neurosyphilis, encephalitis)
    - **Metabolic diseases** (e.g. hypercalcaemia, hyponatraemia, hypoglycaemia, uraemia, hepatic encephalopathy)
    - **Endocrine diseases** (e.g. syndrome, hypothyroidism, hyperthyroidism, panhypopituitarism)
    - **Vitamin deficiencies** (e.g. vitamin B12, folate)
- **Other factors:** sensory impairment, isolation, migration with cultural barrier

Table 3.28 *Delusional Disorder: ICD-10 and DSM-5 Criteria*

	ICD-10	DSM-5
Duration	Delusions lasting ≥ 3 months	Delusions lasting ≥1 month
Clinical Features	Delusions are persistent and can be life-long	Individuals need to have fixed, firmed and unshakeable beliefs (delusions) for a minimum duration of at least 1 month. These delusional beliefs must not have a marked impairment on an individual's level of functioning. Individuals might experience hallucinations at times, but the content of the hallucinations are usually in relation to the delusional beliefs.
Exclude	Schizophrenia Mood disorder First-rank symptoms Long-term organic disorder Substance misuse	No significant impairment of functioning Symptoms must not be explained by obsessive compulsive disorder or body dysmorphic disorder with absent insight/delusional beliefs Clinicians must distinguish between delusional disorder and schizophrenia
Types	**Persecutory:** most common type; delusions of being followed, harmed, poisoned or malevolently treated **Jealous:** accusations of infidelity with absolutely illogical or impossible reasoning; may be associated with violence **Erotomanic:** usually a female patient believing that a man of higher status has fallen in love with her but absolutely illogical; may be associated with stalking **Hypochondriasis:** delusion of infestation (or parasitic infection), dysmorphophobia (concern that one body part is unattractive), foul body odour **Capgras syndrome** **Fregoli syndrome**	**Erotomanic:** individuals believing that others are in love with them **Grandiose:** individuals believing that they possess unique abilities **Jealous:** individuals believing that their loved ones are not faithful **Persecutory:** individuals believing that others are out to harm, cheat or poison them **Somatic:** individuals believing that there are some abnormalities pertaining to bodily functions **Mixed:** when no major delusional theme can be identified **Unspecified** Delusions can also be subclassified into those with or without bizarre content (previously in DSM-IV-TR, delusions were deemed only as non-bizarre)

Management

- **Hospitalisation:**
  - If high risk of suicide or self-harm (e.g. high risk for self-operation in dysmorphophobic delusion
  - If high risk of violence or aggression (e.g. a patient with morbid jealousy using violence to interrogate the spouse)
  - The Mental Disorder and Treatment Act can be invoked to treat the patient with compulsory admission
- **Pharmacological:** similar to schizophrenia, antipsychotics and benzodiazepine
  - May require covert antipsychotics (e.g. administering liquid antipsychotics via food in patients with very poor insight who refuse oral treatment); the decision to employ covert medication is determined by a consultant psychiatrist with detailed discussion with family members and after analysis of risks and benefits
- **Psychosocial interventions:** include cognitive therapy targeting delusions, family therapy, provide shelter or alternative accommodation to the spouse of a patient with morbid jealousy

Key Learning Points

1. Schizophrenia is characterised by positive, negative, cognitive and disorganised symptoms.
2. High expressed emotion is an important and modifiable social risk factor for relapse of schizophrenia.
3. Schneider's first rank symptoms are important in establishing a diagnosis of schizophrenia.
4. Academic decline is often a hallmark of young-onset schizophrenia and should be assessed in the history.
5. First-generation antipsychotics tend to cause extrapyramidal side effects while second-generation antipsychotics tend to cause weight gain and metabolic syndrome.
6. Extrapyramidal side effects include pseudoparkinsonism, acute dystonia and akathisia.
7. Presence of schizophrenic symptoms for 1 day to 1 month is termed brief psychosis, 1 month to 6 months schizophreniform disorder, and more than 6 months schizophrenia.
8. Agranulocytosis is a rare (1 in 10,000) but dangerous side effect of clozapine and should be monitored for with regular full blood counts.

9. Aripiprazole has minimal side effects but is also more expensive and has subpar efficacy compared to other antipsychotics.

10. Psychotherapy is an important medium/long-term management strategy shown to improve outcomes.

Revision MCQs and MEQs

MCQ

1. Which of the following symptoms of schizophrenia is not a first rank symptom?

a. Audible thoughts
b. Delusional perception
c. Formal thought disorder
d. Thought insertion
e. Voices discussing or arguing

Answer:
First-rank symptoms can be summarised by the acronym 'ABCD'. 'A' stands for auditory hallucinations (e.g. third-person, audible thoughts, thought echo). 'B' stands for broadcasting (e.g. thought broadcasting, thought insertion and thought withdrawal). 'C' stands for control or passivity (e.g. delusion of control). 'D' stands for delusional perception. Hence, formal thought disorders are not a first-rank symptom.

2. A 40-year-old woman suffering from schizophrenia has been taking haloperidol for the past 10 years and her QTc is 500 ms. She wants to find out the potential medical complications if she continues to take haloperidol. Which of the following complications is least likely?

a. Atrial fibrillation
b. Palpitations
c. Sudden cardiac death
d. Torsades de pointes
e. Ventricular fibrillation

Answer:
A prolonged QTc interval mainly affects the ventricles but not the atrium. Torsades de pointes is a form of irregular heartbeat that originates from the ventricles and causes ventricular fibrillation. A prolonged QTc interval is also associated with palpitations, sudden cardiac death and ventricular fibrillation.

3. A 50-year-old woman suffers from schizophrenia and her QTc is 500ms. Which of the following antipsychotics is least likely to lengthen her QTc interval?

a. Aripiprazole
b. Olanzapine
c. Quetiapine
d. Risperidone
e. Sulpiride

Answer:
Aripiprazole is least likely to prolong the QTc interval; sulpiride also carries a low risk of QTc prolongation.

4. A junior medical student is interested in haloperidol and asks you to which class of antipsychotics it belongs. Your answer is:

a. Butyrophenones
b. Phenothiazines
c. Piperidines
d. Piperazines
e. Thioxaothenes

Answer:
Haloperidol belongs to the class of butyrophenones. Chlorpromazine belongs to the class of phenothiazines. Thioridazine belongs to the class of piperidine. Fluphenazine belongs to the class of piperazine.

5. A 30-year-old develops schizophrenia and you have prescribed an antipsychotic agent. His wife wants to know the chance of him showing a complete response. Your answer is:

a. 10%
b. 20%
c. 30%
d. 40%
e. 50%

Answer:
Only 30% of patients will show complete response. 60% of patients will respond to some degree. 10% of patients will not respond to any antipsychotic agents.

6. A 38-year-old father is diagnosed with schizophrenia. His wife does not have any psychiatric illness. He wants to know the risk of his son developing the disorder. Your answer is:

a. 5%
b. 10%
c. 13%

d. 20%
e. 25%

Answer:
His son has 13% risk of developing schizophrenia.

7. The Ministry of Health wants to develop a new mental health service targeting immigrants who suffer from schizophrenia. Which of the following statements is true regarding the risk of developing schizophrenia among immigrants?

a. Biological factors have a greater aetiological role in comparison to sociological factors
b. Migrants from the inner city have a higher risk
c. Migrants have the same risk as the population in their native countries
d. Migrants are less likely to be hospitalised
e. The service should focus on first-generation immigrants because they have higher risk of developing schizophrenia

Answer:
Among immigrants, sociological factors are more important than biological factors in the aetiology of schizophrenia. Migrants have higher risk of developing schizophrenia and are more likely to be hospitalised. The first-generation and subsequent generation of immigrants have higher risk of developing schizophrenia and the service should not just focus on the first generation of immigrants.

8. A 20-year-old man presents with the first episode of psychosis in his life. Which of the following factors is the most important predicting factor for schizophrenia?

a. Alcohol misuse
b. Duration of quasi-psychotic symptoms
c. History of schizophrenia in relatives
d. Impairments in social functioning
e. Unemployment

Answer:
Family history of schizophrenia or genetic factor is the most important predicting factor among the above options. Recent population genetic studies have shown that schizophrenia has high heritability. Genome-wide association studies have identified a number of risk loci at levels of significance.

9. Which of the following risk factors is associated with the highest risk of developing agranulocytosis in schizophrenic patients taking clozapine?

a. Afro-Caribbean descent
b. Young age
c. Female gender

d. High dose of clozapine
e. Long duration of clozapine usage

Answer:
Female gender, Ashkenazi Jewish descent and older age are associated with high risk of developing agranulocytosis. The risk of developing agranulocytosis is not proportional to dose and duration of treatment.

MEQ

A 30-year-old man has been brought in by his sister because he has been hearing voices, having spiritual warfare with Satan and complaining that his thoughts are being interfered with. He has been unemployed for 10 years as a result of the above symptoms and refuses to seek treatment. His wife left him a few years ago. Mental state examination shows his affect is blunted and he is preoccupied with psychotic experiences.

1. What is your provisional diagnosis and differential diagnoses?

Answer:
Provisional diagnosis: schizophrenia
Differential diagnoses: drug induced psychosis, organic causes (e.g. temporal lobe epilepsy), severe depression with psychotic features

2. What characteristics in this patient are associated with poor prognosis of your provisional diagnosis?

Answer:
Male gender, long duration of untreated psychosis, lack of support, poor insight

3. During the interview, he suddenly ran away from your clinic room and hid in the carpark. His sister has difficulty managing him at home. What would you do next?

Answer:
Advise patient to be admitted. If he refuses admission, refer him to the Institute of Mental Health and admit him under the Mental Disorder and Treatment Act

4. The patient was admitted to hospital and stabilised with oral antipsychotics. After discharge, he refused to take his medication again. What would you offer to this patient?

Answer:
Psychoeducation about schizophrenia and the role of antipsychotics

Motivational interviewing: analyse the benefits and disadvantages of not taking medication

5. Six months after discharge, you see the patient in the clinic. He challenges the diagnosis of schizophrenia and believes himself to suffer from depressive illness. His wife asks you how to differentiate the presentation of schizophrenia from depressive illness. Your answer is:

Answer:
Schizophrenic patients exhibit mood-incongruent psychotic features while depressed patients exhibit mood-congruent psychotic features.
Schizophrenic patients show blunted affect while depressed patients are more reactive in their affect.
First rank symptoms do not usually occur in patients with depression.
In general, people with depression have better global and occupational functioning in comparison to schizophrenic patients.

EMIS

Disorders of Action

1. A patient said that someone is using telepathy to cause his hands to tremble although no obvious tremors are noted.

   a. Somatic passivity
   b. Made volition
   c. Made affect
   d. Made impulse
   e. Somatic hallucination
   f. Compulsion
   g. Delusional perception
   h. Referential delusion
   i. Delusional misrepresentation

2. A patient said, "I know it's wrong to do it and in fact I didn't want to do it, but despite my resistance they forced me to do it."

   a. Somatic passivity
   b. Made volition
   c. Made affect
   d. Made impulse
   e. Somatic hallucination
   f. Compulsion
   g. Delusional perception

h. Referential delusion
i. Delusional misrepresentation

3. “When I heard the train coming, I knew there is a plot to finish me off.”

a. Somatic passivity
b. Made volition
c. Made affect
d. Made impulse
e. Somatic hallucination
f. Compulsion
g. Delusional perception
h. Referential delusion
i. Delusional misrepresentation

4. A patient vocalised that he feels unpleasant due to insects crawling under his skin.

a. Somatic passivity
b. Made volition
c. Made affect
d. Made impulse
e. Somatic hallucination
f. Compulsion
g. Delusional perception
h. Referential delusion
i. Delusional misrepresentation

First Rank Symptoms

1. Which of the following is not considered a first rank symptom of schizophrenia?

a. Voices commanding the patient
b. Voices discussing among themselves
c. Voices echoing the patient’s own thoughts
d. Voices giving commentary on the patient
e. Voices giving repeated feedback as and when the patient does an action

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Chapter 4
Mood Disorders

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4.1 Depressive Disorder

Depressive disorder is one of the most common psychiatric disorders in Singapore and worldwide.

4.1.1 Epidemiology

Major depressive disorder is predicted to be second in global disease burden by 2020, after ischaemic heart disease.

Table 4.1 *Epidemiology of Depressive Disorder*

	International	Singapore
Incidence	14.0 per 1000 persons	As on left
Lifetime Prevalence	Overall: 10-20% 1 in 4 women 1 in 10 men	As on left
Point Prevalence	2-5%	5.6%
Age of Onset	24-45 years	As on left
Gender Ration	F:M = 2:1	As on left

4.1.2 Aetiology

Genetics

- **Family studies**: 40-70% chance of developing depressive episode if first-degree relative suffer from depressive episode
- **Twin studies**: concordance rate is 40-50% for monozygotic twins and 20% for dizygotic twins
- **Adoption studies**: risk of developing depressive disorder in adoptees with family history of depressive disorder is twice as high as in adoptees without family history of depressive disorder

Organic Causes

- **Physical illnesses**: Cushing syndrome, Addison disease, Parkinson disease, stroke, epilepsy, coronary artery disease, hypothyroidism
- **Medications**: corticosteroids, oral contraceptive pills, beta-blockers, clonidine, metoclopramide, theophylline, nifedipine

Psychosocial Factors

- **Adversity in Childhood**
  - Maternal loss, disruption of bonding
  - Poor parental care, over-protection among parents
  - Childhood physical and sexual abuse
- **Adversity in Adulthood**
  - **Women**: absence of a confiding relationship, having more than 3 children under the age of 14, unemployment (Brown and Harris' Social Origins of Depression, 1978)
  - **Men**: unemployment, divorce (e.g. inability to pay maintenance fees, loss of custody)
- **Recent Life Events**
  - Loss of a child
  - Death of a spouse
  - Divorce
  - Marital separation
  - Imprisonment
  - Recent death of a close family member
  - Unemployement
- **Presence of Cognitive Errors**
  - **Magnification**: tendency to magnify the magnitude of a failure and dismiss all previous successes
  - **Overgeneralization**: generalisation of failure in one area of life to other areas of life
  - **Personalization**: feeling that one is entirely responsible for failure and discounting the role of other individuals in responsibility for failure

4.1.3 Neurobiology

Monoamine theory

- Depressed patients have decreased levels of noradrenaline, serotonin and dopamine
- 5-HIAA levels (a serotonin metabolite) are reduced in the CSF of depressed patients who commit suicide
- Tricyclic antidepressants increase noradrenaline levels
- Selective serotonin reuptake inhibitors increase serotonin levels
- Bupropion may increase dopamine levels

Other neurotransmitters

- Raised acetylcholine levels: associated with depressive symptoms e.g. anergia, lethargy, psychomotor retardation
- Decreased levels of gamma-aminobutyric acid (GABA)

Neuroendocrinology

- Elevated CRF, ACTH and cortisol in blood and CSF in depressed patients
- Non-suppression in dexamethasone suppression test (DST) is greatest in people with severe depression (as a result of increased hypothalamic CRF release) and reversed with antidepressant treatment
- Depression reduces the level of somatostatin (inhibitory hormone) and increases the level of growth hormone
- Decreased levels of thyroid hormone (T4) are associated with depressive symptoms

Neuroimaging

- Ventricular enlargement, sulcal widening and reduction in size in the frontal lobe, cerebellum, basal ganglia, hippocampus and amygdala

4.1.4 Diagnostic Criteria

Clinical Features

Table 4.2 *Clinical Features of Schizophrenia*

Reality axis	
Hallucination	**Delusion**
1. Condemnatory, auditory hallucinations	1. Guilt 2. Hypochondriasis 3. Nihilistic 4. Self-referential 5. Persecutory
Appearance-behaviour axis	
General Appearance	**Behaviour**
1. Not specified by ICD-10 or DSM-5 2. Neglect of dressing and grooming 3. Turning downwards of the corners of the mouth 4. Vertical furrowing of the centre of brow and downward gaze	1. Loss of confidence or self-esteem 2. Unreasonable feelings of self-reproach or excessive guilt 3. Psychomotor agitation or retardation 4. Sleep disturbance 5. Change in appetite 6. Somatic syndrome
Thought-speech axis	
Thoughts	**Speech**
1. Recurrent thoughts of death or suicide	

2. Diminished ability to think and concentrate	1. Depressive stupor

Affect-interest axis	
Affect	**Interest**
1. Depressed mood most of the day, almost every day for 2 weeks (core criterion)	1. Loss of interest or pleasure in activities that are normally pleasurable 2. Decreased energy or increased fatigability (core criteria)

DSM-5 Diagnostic Criteria

For individuals to fulfil the diagnosis of depressive disorder, they must have at least 5 of the following symptoms for a minimum duration of 2 weeks:

1. Low mood for most of the days (core feature)
2. Diminished interest in almost all activities (core feature)
3. Weight loss of more than 5% of body weight within a month's duration
4. Sleep difficulties characterized as either insomnia (total sleep time, Random Eye Movement (REM) latency, density of REM sleep and nocturnal wakening) or hypersomnia
5. Psychomotor changes characterized as either agitation or retardation
6. Generalized feelings of low energy nearly everyday
7. Feeling worthless, or excessive guilt
8. Attention and concentration difficulties
9. Recurrent passive or active ideations of self-harm and suicide

These symptoms must have caused marked impairments in terms of premorbid functioning. For significant losses (e.g. bereavement, financial losses, disability), clinicians should carefully consider comorbid major depressive disorder, in addition to usual responses to the losses.

Subtypes

1. With **anxious distress**: characterised by the presence of at least 2 of the following symptoms: feeling restless/keyed up, difficulties with concentration, worries that something awful might happen, fear of losing control

2. With **mixed features**: characterised by presence of 3 or more of the following symptoms: elevated mood, grandiosity, increased speech, flight of ideas, increased energy, increased risky behaviour, decreased need for sleep

3. With **melancholic features**: characterised by the presence of either

    - Diminished enjoyment in most activities or
    - Unable to react to enjoyable stimulus;

- and at least 3 or more of the following symptoms
- Feelings of excessive guilt
- Decreased appetite
- Psychomotor changes
- Early morning awakening (at least 2 hours in advance)
- Low mood especially in the morning
- Distinctively low mood

4. With **atypical features**: characterised by the following symptoms:

    - Ability of mood to react according to stimulus
    - Significant increment in appetite or weight
    - Increased duration of sleep
    - Heavy sensations in arms or legs
    - Sensitivity to interpersonal rejection

5. With **mood-congruent psychotic features**

6. With **mood-incongruent psychotic features**

7. With **catatonia**

8. With **peripartum onset**: characterised by mood symptoms occurring during pregnancy or in the 4 weeks following delivery

9. With **seasonal pattern**: characterised by regular association between mood symptoms and particular seasons in a year with full remission during other seasons; at least 2 major depressive episodes must have demonstrated correlation with seasonality in the last 2 years for this diagnosis to be fulfilled

Recurrent Depressive Disorder

There must be at least two major depressive episodes. To be considered separate episodes, there must be an interval of at least 2 consecutive months in which criteria are not met for a major depressive episode.

When making a diagnosis of recurrent depressive disorder, specify if it is mild, moderate, or severe, with or without psychotic features, in partial/full remission, or unspecified.

Cyclothymia

Individuals would fulfil this diagnosis if over a duration of at least 2 years (or 1 year for children and adolescents), there have been numerous episodes (at least half the time) with hypomanic symptoms and depressive symptoms. It must be noted that these episodes do not meet the full diagnostic criteria for hypomania or depression. The individual must not have been without the symptoms for more than 2 months in duration each time.

Dysthymia (Persistent Depressive Disorder)

An individual must have pervasive depressed mood for most part of the days, for a total duration of at least 2 years to qualify for the above diagnosis (1 year for children or adolescents).

Apart from depressed mood, the individual should have at least 2 of the following signs and symptoms:

1. Reduced or excessive oral intake
2. Difficulties associated with sleep: either insomnia or hypersomnia
3. Marked reduction in energy levels
4. Reduced self confidence
5. Attention and concentration difficulties
6. Feelings that life is worthless and hopeless

Disruptive Mood Dysregulation Disorder

This diagnosis should be made in individuals between the ages of 6 to 18 years. Individuals should have the following symptoms for at least 12 months and these symptoms should be present in at least 2 different situational settings:

1. Significant outbursts of temper manifested verbally or physically, not in keeping with the situational context
2. Temper outbursts not consistent with developmental level
3. These outbursts occur on average at least 3 times per week
4. In between these temper outbursts, the individual's mood is persistently irritable

Premenstrual Dysphoric Disorder

Onset of symptoms should be at least in the week prior to the onset of menstruation, and symptoms should improve within a few days after the onset of menstruation. The intensity of symptoms should either become minimal or resolve post-menstruation.

An individual needs to have at least 5 of the following signs and symptoms for this diagnosis to be made:

1. Mood swings
2. Increased interpersonal relationship conflicts
3. Feelings of low mood associated with hopelessness
4. Anxiousness
5. Reduction of interest in usual activities
6. Difficulties with concentration
7. Marked reduction in energy levels
8. Changes in appetite
9. Sleep difficulties
10. Sense of losing control

11. Physical symptoms such as breast tenderness/swelling, muscular pain, bloating sensation, weight gain

Melancholic Depression

This is characterised by the presence of melancholic features; either:

1. Diminished enjoyment in most activities, or
2. Inability to react to enjoyable stimuli;
   and at least 3 or more of the following symptoms:
3. Feelings of guilt
4. Decreased appetite
5. Psychomotor changes

Atypical Depression

This is characterised by the presence of the following symptoms:

1. Ability of mood to react according to stimulus
2. Significant increment in appetite or weight
3. Increased duration of sleep
4. Heavy sensations in arms or legs
5. Sensitivity to interpersonal rejection

Features of Atypical Depression (RAILS):

Reactive mood
Appetite increase
Interpersonal rejection sensitivity
Leaden paralysis
Sleep increase

4.1.5 OSCE Grid

You are a resident working in the AED. A 30-year-old teacher is referred from the polyclinic for management of depression. He cannot cope with the workload and he also has interpersonal problems with the school principal.

Task: Take a history to establish the diagnosis of depressive disorder. Note that forgetting to make a brief assessment of suicidal risk in a depressed patient may result in a failure.

Table 4.3 *OSCE Grid: Depressive Disorder*

A) Assess core symptoms of depression		
A1) Mood	A2) Energy	A3) Interest
During the past month, how often have you been bothered by feeling down or depressed? Can you rate your current mood on a scale of 1 to 10, where 1 is very depressed and 10 is very happy? Which part of the day is worst? (elicit diurnal variation of mood)	How have your energy levels been recently? Do you feel tired most of the time?	Can you tell me more about your interests and hobbies before the current depressive episode? During the past month, how often have you been bothered by having little interest or pleasure in doing things?
B) Assess biological symptoms of depression		
B1) Sleep	B2) Appetite and weight	B3) Sexual function
How has your sleep been lately? Can you fall asleep? If not, how long does it take? How many times do you wake up in the middle of the night? (exclude urination) At what time do you wake up in the morning? (look for early morning wakening) If you wake up, can you fall asleep again?	Has your appetite changed recently? Do you tend to eat less or more? Has your weight changed recently? Have you lost or gained weight? How many kilogrammes were involved?	I hope you do not mind if I ask you some sensitive questions as depression may affect sexual function. Have there been any changes in your sexual function recently? Can you tell me more about the nature of the sexual dysfunction? When did the sexual dysfunction start? (coincidence with onset of depression)
C) Assess cognitive symptoms		
C1) Cognitive impairment	C2) Feelings toward self and future	C3) Common cognitive biases
What has your concentration been like recently? Can you concentrate when you teach? How has your memory been?	How do you see yourself? Do you see yourself as a failure? How do you see your future? Do you feel hopeless?	Can you tell me more about your negative thoughts? (look for selective abstraction, overgeneralisation or catastrophic thinking; gently challenge patient's beliefs or

		provide an alternative explanation to seek their view)
D) Assess risk, psychotic features and insight		
D1) Suicide risk	D2) Psychotic features	D3) Insight
Have you felt that life is not worth living? Would you do anything to harm or hurt yourself? Have you done anything of that sort? Have you made any plans? Have you told anyone about it?	When people are under stress, they sometimes complain of hearing voices or believing that other people are doing something to harm them. Do you have such experiences?	What is your view of the current problem? Do you think that you may suffer from a depressive illness?
E) Explore aetiology and background		
E1) Family history	E2) Past psychiatric and medical history	E3) Support system
Do you have any biologically related relatives who suffer from depression? Do you have any biologically related relative who attempted or committed suicide in the past?	Did you seek help from a psychiatrist or GP in the past for your low mood? Did you receive any treatment from a psychiatrist? What medications and side effects were there? How anxious do you feel? (comorbidity) Do you drink alcohol on a daily basis to cope with stress or to help you sleep? Do you suffer from any chronic medical illness?	Is there anyone who is providing emotional support to you at this moment? Is there someone in the school whom you can talk to? What is your career plan at this moment? Have you sought help from the Ministry of Education?

4.1.6 Differential Diagnoses

Differentials for depressive disorder include:

1. Adjustment disorder (less likely to have genetic history), dysthymia, bipolar disorder, eating disorders, schizoaffective disorder, schizophrenia with predominance of negative symptoms
2. Dementia, Parkinson disease, post-stroke depression, head injury in old people presenting with depression
3. Addison disease, Cushing disease, hypothyroidism, parathyroid dysfunction, hypopituitarism, menopausal symptoms
4. Systemic lupus erythematosus
5. Syphilis, HIV encephalopathy
6. Medication-induced (e.g. beta-blockers, steroids, oral contraceptive pills)
7. Substance misuse (e.g. benzodiazepines, alcohol, opiates)

4.1.7 Investigations

Routine laboratory tests should be ordered (e.g. FBC, ESR, B12/Folate, RFT, LFT, TFT, calcium panel and PTH). Sodium levels are important in the elderly who are prone to hyponatraemia as a result of SSRI treatment.

Further investigations include urine drug screen, urine FEME and urine culture (for elderly), thyroid antibodies (for people with abnormal TFT), antinuclear antibody (in suspected SLE), syphilis serology, HIV testing, and CT/MRI.

4.1.8 Questionnaires

Beck Depression Inventory (BDI)

The BDI is a 21-item self-rated instrument to measure the presence and degree of depression in both adolescents (reading age of approximately 10 years is required) and adults. It is designed to measure attitudes and symptoms characteristic of depression, and covers the two weeks prior to evaluation. It consists of 21 items, each categorised into various levels of severity (with a score ranging from 0 to 3). The total score is the sum of items. A total score <9 indicates no or minimal depression. A total score >30 indicates severe depression.

Hamilton Depression Scale (HAM-D)

The HAM-D is a clinician-rated semi-structured scale designed to measure the severity of depressive symptoms in patients with primary depressive illness. There are two versions: the 17-item scale and the 21-items scale. The 17-item version covers mood, suicide, guilt, sleep, appetite, energy, somatic complaints, sexual function and weight. The 21-item consists of an

additional 4 items on diurnal variation of mood, derealisation/depersonalisation, paranoid idea and obsessions/compulsions. The HAM-D monitors changes in the severity of symptoms during treatment. It is not diagnostic and its validity is affected if the person has concurrent physical illness. The total scores range from 0 (no depression), 0-10 (mild depression), 10- 23 (moderate depression) and over 23 (severe depression).

Montgomery-Asberg Depression Rating Scale (MADRS)

The MADRS is a clinician-rated scale for patients with major depressive disorder. It measures the degree of severity of depressive symptoms and is a particularly sensitive measure of change in symptom severity during treatment. The 10-item checklist measures current mood state. In contrast to HAM-D, the MADRS is useful for people with concurrent physical illness as it puts less emphasis on somatic symptoms.

4.1.9 Management

Aim

- To achieve symptomatic remission of all signs and symptoms of depression, restore occupation and psychosocial functioning

Initial Treatment

- **Non-pharmacological**
    - **Counselling** and **supportive therapy** alone may benefit patients with mild depression
    - **Sleep hygiene advice**: if sleep is a problem
    - **Psychotherapy**: may be considered as first-line treatment in patients who are reluctant to start antidepressants or patients with comorbid medical conditions who may be unable to tolerate the antidepressants
    - **Hospitalisation**: may be required if the patient poses high suicide risk to self
        - **Pharmacological**
            - **SSRIs**: first line pharmacological treatment
                - Inform patients antidepressants will take 4 to 6 weeks to achieve their effect
                - Explain side effects to patients
                - Monotherapy with a single antidepressant is recommended
            - **Tricyclic antidepressants (TCAs)**: must be avoided in suicidal patients due to their lethality in overdose

Acute Phase: 12 weeks

- Efficacy of treatment is gauged by amelioration of symptoms and dose should be titrated according to clinical response

- Monitor all patients recently started on antidepressants closely for increased agitation and suicidal behaviour, especially young patients (younger than 25 years)
- Some symptoms, such as sleep and appetite, may improve more quickly
- If partial response or non-response, increase the dose or switch to another antidepressant
    - First line: alternative SSRI
    - Second line: antidepressant from a different class
    - Consider antidepressant half-life before switching; a washout period of three days is needed when switching from fluoxetine which has a long half-life to moclobemide (reversible MAOI)
- If there is inadequate response to a single drug treatment, other agents such as another antidepressant (e.g. mirtazapine), mood stabiliser (e.g. lithium) or antipsychotics (e.g. olanzapine) can be added as augmentation therapy
- Combination with psychotherapy such as cognitive behaviour therapy is recommended for patients with moderate depressive episode

Stabilisation Phase

- Antidepressants should be continued for at least six months after the acute phase
- Psychological intervention
    - Mild depressive episode: 3-4months
    - Moderate/severe depressive episode: 4-6months
- If a patient needs to stop antidepressants, stop gradually over a four-week period to avoiddis continuation symptoms e.g. anxiety, giddiness, flu like symptoms, low mood nausea, insomnia; antidepressants with shorter half-lives (e.g. paroxetine, venlafaxine) need to be discontinued over a longer period of time

4.1.10 Selective Serotonin Reuptake Inhibitors (SSRIs)

Indications

- Depressive disorder (first-line treatment over TCAs)
- Anxiety disorders
- Obsessive compulsive disorder
- Bulimia nervosa (fluoxetine)
- Premature ejaculation

Contraindications

- Absolute: mania
- Relative: prior to surgery if clotting factors are deranged (believed to inhibit platelet aggregation)

Mechanism of Action

- Selectively block reuptake of serotonin at presynaptic nerve terminals

- Increase synaptic serotonin concentrations

Side Effects

- **Gastrointestinal**: nausea, abdominal pain, diarrhoea, constipation, weight loss
- **Autonomic**: agitation, tremor, insomnia
- **Sexual dysfunction** (manage by reducing dose, instituting drug holidays over the weekend, changing antidepressant to bupropion, sex therapy, prescription of sildenafil)

Table 4.4 *Fluoxetine*

Trade Name	Prozac
Dose	20mg to 60mg/day
Features	• Nonlinear elimination kinetics • Safe in overdose
Indications	• Obsessive compulsive disorder (> 60mg/day) • Panic disorder • Bulimia nervosa • Post-traumatic stress disorder • Premenstrual dysphoric disorder • Premature ejaculation • Childhood/adolescent depression
Pharmacokinetics	• Inhibits P450 3A3/4, 2C9, 2C19, 2D6, and its own metabolism • Higher doses can result in disproportionately high plasma levels (due to nonlinear pharmacokinetics) and some side-effects can present late in the course of treatment • Metabolite (norfluoxetine): much less potent • Half-life: 72h
Pharmacodynamics	Serotonin system exerts tonic inhibition of central dopaminergic system; may diminish dopaminergic transmission leading to EPSE
Side Effects	• Anxiety, agitation • Delayed ejaculation/orgasmic impotence • Hypersomnolence (at high doses) • Nausea • Dry mouth
Drug Interaction	• Washout period before taking MAOI: 5 weeks • Inhibition of P450 2D6 may elevate concentration of other drugs (especially those with narrow therapeutic index): flecainide, quinidine, carbamazepine, TCAs

Table 4.5 *Fluvoxamine*

Trade Name	Faverin
Dose	50mg to 300mg/day
Features	• Highly selective SSRI • FDA approval for OCD • Lower volume of distribution, low protein binding, and much shorter elimination half-life compared to other SSRIs
Indications	• Social phobia • Panic disorder • Post-traumatic stress disorder
Pharmacokinetics	• Well absorbed • Half-life: 19h • Metabolised to inactive metabolites • Lower volume of distribution and low protein binding • Maximum plasma concentration is dose dependent • Steady-state levels 2 to 4-fold higher in children than in adolescents especially female • Well tolerated in elderly and in people with mild cardiovascular disease or epileps • Potent inhibition of P450 1A2
Pharmacodynamics	• Specificity for 5-HT reuptake greater than in other SSRIs • Neuroadaptive changes: specific serotonin receptor subtypes change following presynaptic blockade, neurogenesis of hippocampal brain cells causes changes in behaviour
Side Effects	• Nausea (more common than other SSRIs) • Sexual side effects (similar in frequency to other SSRIs Minimal effects on psychomotor and cognitive function

Table 4.6 *Sertraline*

Trade Name	Zoloft
Dose	50mg to 200mg/day
Features	• Effective in young women with mood disorders • Effective in mood and anxiety disorders • Contraindicated in breast cancer patients receiving tamoxifen as it will inhibit metabolism of tamoxifen leading to cancer recurrence
Indications	• Premenstrual dysphoric disorder • Obsessive compulsive disorder • Post-traumatic stress disorder
Pharmacokinetics	• Inhibits P450 2C9, 2C19, 2D6, 3A4

	• Half-life: 26-32h • More than 95% protein bound • Metabolite (desmethylsertraline) 1/10th as active in blocking serotonin reuptake
Pharmacodynamics	• Immediate effect: decrease neuronal firing rates • Followed by normalisation and increase in firing rates as autoreceptors are desensitised
Side Effects	• Gastrointestinal disturbance (27%) • Headache (26%) • Insomnia (22%) • Dry mouth (15%) • Ejaculation failure (14%)

Table 4.7 *Paroxetine CR*

Trade Name	Seroxat CR
Dose	12.5mg to 50mg/day
Features	• Most sedative and anticholinergic SSRI • Risk of foetal exposure resulting in pulmonary hypertension • Contraindicated in breast cancer patients receiving tamoxifen as it will inhibit metabolism of tamoxifen leading to cancer recurrence
Indications	• Mixed anxiety and depression • Panic disorder • Social anxiety disorder • Generalised anxiety disorder • Post-traumatic stress disorder • Premenstrual disorder
Pharmacokinetics	• Well absorbed from the gastrointestinal tract • Highly lipophilic compound • High volume of distribution • 95% bound to serum proteins • Undergoes extensive first-pass metabolism • Slow absorption and delayed release over 5 hours • Short half-life of original paroxetine leads to discontinuation syndrome • Inhibits its own metabolism
Side Effects	• Anticholinergic side effects • Nausea • Sexual side effects: emerge in a dose-dependent fashion • Closed angle glaucoma (acute) • Increased risk of serious congenital (particularly cardiac) defects in utero: first-trimester use should be avoided

Drug Interaction	• Clinical significant interaction: MAOI, TCA, Type 1C antiarrhythmics • Probably significant interaction: β-adrenergic antagonists, antiepileptic agents, cimetidine, typical antipsychotics, warfarin

Table 4.8 *Escitalopram*

Trade Name	Lexapro
Dose	10mg to 20mg/day
Features	• Most selective SSRI (more selective than citalopram) • Relatively weak inhibition of liver P450 enzymes • Fewer side effects, more potent, shorter half-life • Recommended for breast cancer patients on tamoxifen unlike fluvoxamine and paroxetine
Indications	• Obsessive compulsive disorder • Panic disorder • Cerebrovascular accident • Anxiety with major depression • Emotional problems associated with dementia
Pharmacokinetics	• Well absorbed after oral administration with high bioavailability • Peak plasma concentration normally observed 2-4 hours following oral dose • Subject to very little first-pass metabolism
Side Effects	• Nausea and vomiting (20%) • Increased sweating (18%) • Dry mouth and headache (17%) • Anorgasmia and ejaculatory failure • Dose-dependent QTc prolongation (higher risk than other SSRIs, but lower risk than antipsychotics) • No significant effect on cardiac conduction and repolarisation

4.1.11 Serotonin Antagonist and Reuptake Inhibitor (SARI)

Table 4.9 *Trazodone*

Dose	150mg to 300mg/day
Features	Mixed serotonin antagonist/agonist
Indications	• Well absorbed after oral administration • Peak blood levels occur about 1 hour after dosing • Elimination is biphasic: initial phase (t1/2 = 4h) then slower phase (t1/2 = 7h)

	• Metabolite (mCPP) is a non-selective serotonin receptor agonist with anxiogenic properties
Pharmacodynamics	Antagonises both α1 and α2-adrenoceptors but has very weak anticholinergic side-effects
Side Effects	• Priapism • Orthostatic hypotension • Increased libido • Sedation • Bone marrow suppression

4.1.12 Noradrenaline Specific Serotonin Antidepressant (NaSSA)

Table 4.10 *Mirtazapine*

Dose	15mg to 45mg/day
Features	• Blocks negative feedback of noradrenaline on presynaptic α2 receptors and activates noradrenergic system • Stimulates serotonin neurons and increases noradrenergic activity • No effects on seizure threshold or on cardiovascular system • Suitable for patients who cannot tolerate SSRI-induced sexual dysfunction
Indications	• Poor appetite • Dysthymia (40% reduction) • Post-traumatic stress disorder (50% reduction) • Chronic pain
Pharmacokinetics	• Peak plasma level obtained after approximately 2 hours • Linear pharmacokinetics and steady-state plasma level obtained after 5 days • Elimination half-life = 22h • Metabolised by P450 1A2, 2D6 and 3A4 • 75% excreted renally, 15% excreted via gastrointestinal tract
Pharmacodynamics	• Blockade of release-modulating α2-adrenoceptors leads to enhanced noradrenaline release • Released noradrenaline stimulates serotonin neurons via activation of α1 adrenoceptors which in turn results in an enhanced noradrenaline effect, together with the selective activation of 5-HT1A receptors; may underlie antidepressant effect • 5HT1A agonism: antidepressant and anxiolytic effects • 5HT2A antagonism: anxiolytic, sleep restoring and less sexual side effects • 5HT2c antagonism: anxiolytic & weight gain

	• 5HT3 antagonism: no nausea, no gastrointestinal side effects • Blocks histaminergic receptors: results in drowsiness
Side Effects	• Drowsiness • Weight gain • Increased appetite • Dry mouth • Postural hypotension

4.1.13 Serotonin Noradrenaline Reuptake Inhibitors (SNRIs)

Table 4.11 *Venlafaxine XR*

Trade Name	Efexor XR
Dose	75mg to 375mg/day
Features	• Low dose blocks serotonin reuptake • Moderate dose blocks noradrenaline reuptake • High dose blocks noradrenaline, dopamine and serotonin reuptake • Metabolised by P450 3A4 to inactive metabolite • Metabolised by P450 2D6 to active metabolite • More rapid onset action and enhanced efficacy in severe depression
Indications	Generalised anxiety disorder
Pharmacokinetics	• Minimally protein bound (<30%) • Primarily excreted via renal elimination • Original venlafaxine has relatively short t1/2 = 5-7 h and causes prominent discontinuation syndrome (dizziness, dry mouth, insomnia, nausea, sweating, anorexia, diarrhoea, somnolence and sensory disturbance) hence the availability of venlafaxine extended release (XR)
Side Effects	• Nausea (35%) • Sustained hypertension (dose-related, 50% remits spontaneously) • Dry mouth • Constipation • Sexual dysfunction
Drug Interaction	Toxic interaction with MAOIs leading to serotonin syndrome (most severe drug interaction involving venlafaxine)

4.1.14 Melatonergic Antidepressant

Table 4.13 *Agomelatine*

Trade Name	Valdoxan
Indications	Major depressive disorder
Contraindications	• Renal or hepatic impairment

	• Necessary to perform LFT prior to commencement of medication and during treatment
Pharmacokinetics	• Substrate of CYP1A2, CYP2C9, CYP2C19; hence inhibitors will reduce its clearance and lead to an increased level • Interaction with alcohol which increases hepatic toxicity
Pharmacodynamics	• M1/M2 melatonin agonist: melatonin-like effect appears to help with sleep • 5HT2C antagonist: release of dopamine and norepinephrine in frontal cortex
Side Effects	Common: hyperhidrosis, nausea, vomiting, diarrhoea, constipation, increased liver enzymes, sleepiness

4.1.15 Tricyclic Antidepressants (TCA)

Table 4.14 *Tricyclic Antidepressants*

Indications	• Older antidepressant; not first-line treatment due to potential cardiotoxicity in overdose • Depression • Anxiety disorder • Severe obsessive compulsive disorder (clomipramine) • Neuropathic pain • Migraine prophylaxis • Enuresis
Contraindications	• Cardiac diseases (e.g. post-myocardial infarction, arrhythmias) • Epilepsy • Severe liver disease • Prostatic hypertrophy • Mania
Mechanism of Action	• Inhibits reuptake and increases concentration of both serotonin and noradrenaline • Blocks histaminergic H1, α-adrenergic and cholinergic muscarinic receptors on post-synaptic membrane
Side Effects	• Anticholinergic (e.g. constipation, blurred vision, urinary retention, dry mouth, dizziness, syncope, postural hypotension, sedation) • Histaminergic and dopaminergic blockade: nausea, vomiting, weight gain, sedation • Sexual dysfunction • Hyponatraemia • Cardiac: arrhythmias, ECG changes (QTc prolongation), tachycardia, heart block

	• Overdose may lead to delayed ventricular conduction time, dilated pupils and acidaemia due to central respiratory depression and fall in pH reducing protein binding
Examples	• Amitriptyline (25mg to 150mg/day): most potent anticholinergic effect • Clomipramine (100mg to 225mg/day): most potent TCA at D2 receptors, more selective inhibitor of serotonin reuptake

4.1.16 Monoamine Oxidase Inhibitors (MAOIs)

Table 4.15 *Moclobemide*

Dose	75mg to 225mg/day
Indications	• Atypical depression • Depression with predominant anxiety symptoms (e.g. social anxiety) • Hypochondriasis
Contraindications	• Acute confusional state • Phaeochromocytoma
Mechanism of Action	• Reversible MAOI • Monoamine oxidase A acts on noradrenaline, serotonin, dopamine and tyramine
Side Effects	• Headache • Dry mouth • Dizziness • Gastrointestinal symptoms

The old irreversible MAOIs may interact with food containing tyramine and lead to hypertensive crisis. Irreversible MAOIs are seldom used nowadays. The following food should be avoided:

1. Alcohol: avoid Chianti wine and vermouth but red wine <120 ml has little risk
2. Banana skin
3. Bean curds especially fermented bean curds
4. Cheeses (e.g. mature stilton) should be avoided but cream cheese and cottage cheese have low risk
5. Caviar
6. Extracts from meats and yeasts should be avoided but fresh meat and yeast have low risk

4.1.17 Noradrenaline-Dopamine Reuptake Inhibitor (NDRI)

Table 4.16 *Bupropion*

Dose	150mg to 300mg/day
Indications	• Patients unable to tolerate SSRI-induced sexual dysfunction • Female depressed patients unable to tolerate weight gain from other antidepressants • Smoking cessation
Contraindications	Similar efficacy as SSRI but voluntary withdrawal in the US due to induction of seizure at daily doses higher than 450mg/day
Pharmacodynamics	Block dopamine reuptake
Side Effects	• Tremor • Insomnia • Weight loss • Seizure • Not associated with sexual dysfunction

4.1.18 Serotonin Modulator and Stimulator Antidepressant (SMSA)

Table 4.17 *Vortioxetine*

Trade Name	Brintellex
Dose	10mg/day
Indications	Improve cognitive function associated with depression; useful for subjective memory loss
Pharmacokinetics	• Reaches peak levels in 7-11h • No active metabolite
Pharmacodynamics	• Serotonin transporter (SERT) blocker to inhibit uptake of 5-HT • Noradrenaline transporter (NET) blocker to inhibit uptake of noradrenaline • 5-HT1A receptor high-efficacy (antidepressant, anxiolytic) • 5-HT1B receptor partial agonist (releases dopamine, enhances motivation) • 5-HT1D receptor antagonist (reduces anxiety) • 5-HT3A receptor antagonist (reduces anxiety) • 5-HT7 receptor antagonist (enhances memory and learning, especially in hippocampus) • Î²1-adrenergic receptor agonist (enhances function of noradrenaline) • Stimulation of the above receptors leads to increased acetylcholine levels (important for cognitive function), dopamine, serotonin and noradrenaline, but decreased GABA (reduced drowsiness)

Side Effects	• Nausea • Diarrhoea • Xerostomia • Constipation • Vomiting • Flatulence • Dizziness • Sexual dysfunction

4.1.19 Electroconvulsive Therapy (ECT)

Indications

- Severe depressive disorder not responsive to an adequate trial of antidepressant
- Life-threatening depressive illness (e.g. high suicide risk)
- Stupor or catatonia
- Marked psychomotor retardation
- Psychotic depression
- Treatment-resistant mania
- Treatment-resistant schizophrenia

Relative Contraindications

- Raised intracranial pressure
- Myocardial infarction
- Valvular heart diseases
- Aneurysm
- Recent stroke
- Severe peptic ulcer (increased risk of aspiration)

Mechanism of Action

- Release of noradrenaline, serotonin, dopamine but reduction of acetylcholine release
- Increase in permeability of blood-brain barrier
- Modulation of neurotransmitter receptors e.g. GABA, acetylcholine

Administration

- Usually bilateral temporal ECTs for adults for 6 treatments (3 times a week)
- Unilateral ECT reserved for old patients with risk of cognitive impairment
- Bilateral ECT is more effective than unilateral ECT
- An informed consent is required prior to the ECT; a second opinion from another consultant psychiatrist is required for patients who lack capacity or in cases of patients under the Mental Disorder and Treatment Act who refuse treatment

- ECT is given under general anaesthesia; muscle relaxant is given to prevent muscular spasms
- Electric current generates a seizure for less than one minute
- Before ECT, avoid long acting benzodiazepine which will affect the duration of seizure
- After ECT, patient is recommended to continue antidepressant for at least 6 months

Side Effects

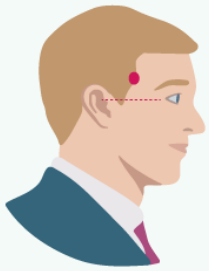
- **Common**
  - Headache
  - Muscle pain
  - Jaw pain
  - Drowsiness
  - Retrograde amnesia (loss of recent memories)
  - Anterograde amnesia (less common than retrograde amnesia)
  - Prolonged seizures (more than one minute)
  - Confusion
- **Others**
  - Complications of anaesthesia: arrhythmia, pulmonary embolism, aspiration pneumonia

Seizure Threshold

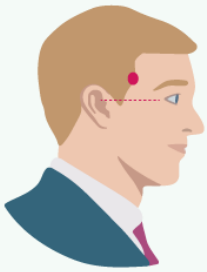
Factors increasing seizure threshold include old age, male gender, baldness, Paget disease, dehydration, previous ECT and benzodiazepine treatment. Factors which decrease seizure threshold include caffeine, theophylline, low carbon dioxide saturation of blood and hyperventilation.

Electrode Positioning in Unilateral ECT

Figure 4.1 *Electrode Positioning in Unilateral ECT*



First electrode: 4cm above the midpoint of lateral angle of eye and external auditory meatus



Second electrode (d'Elia positioning): placed in the midpoint of the arc; radius of arc is approximately 18cm

4.1.20 Repetitive Transcranial Magnetic Stimulation (RTMS)

There has been increasing evidence to support RTMS ads an alternative to ECT for the treatment of depression and other psychiatric disorders.

Current Indications

- Depression
- Post-stroke rehabilitation for motor function

Mechanism

- RTMS stimulates regions of the cerebral cortex using an electromagnet placed over the skull to induce electric currents
- Delivers rhythmic pulses of electromagnetism; intensity is set based on individual's motor threshold as the minimum stimulus needed to cause involuntary muscle movements in the hand

Side Effects

- Local discomfort
- Headache

- Hypomania
- Seizure

4.1.21 OSCE

You are a resident and you have admitted an elderly woman suffering from severe depressive episode with delusion of guilt. She does not respond to antidepressants and antipsychotics. Your consultant has recommended ECT. Her daughter is very concerned and wants to speak to you.

Task: talk to her daughter and address her concerns.

Approach

- Express empathy (e.g. I can imagine the idea of ECT sounds very scary to you, and it's clear you want the best care for your mother. I would like to discuss what ECT involves, because it is very different from what is portrayed in the media. This way, you can make an informed decision.)

Core information about ECT

- ECT involves inducing a fit while the patient is under general anaesthesia.
- ECT is the most effective treatment for depression, particularly for those who have high risk of suicide, very poor appetite and poor response to oral medication; it is sometimes indicated in pregnant women because there are no side effects to the foetus.
- It is very safe and has been with us for the past 50 years.

Will my mother be awake during ECT?

- No, your mother will be given anaesthesia to put her into sleep and a medication that paralyses muscles, so the risk of breaking bones is rare. The patient is given oxygen before the procedure. The patient's blood pressure, heart rhythm, and medical status is monitored throughout the procedure and when she comes out of the anaesthesia.

How often will my mother get ECT and for how long?

- 3 times per week, Mon, Wed, Fri and for 6 sessions (2 weeks); some patients may need 9 to 12 sessions.

How do you know if the ECT is successful?

- We will monitor the duration of her fit. It has to be at least 25 seconds in duration. We will monitor her muscle movement through electrical recordings (i.e. EEG). If response is poor, we will increase the energy level by 5% each time.

How do you decide on the dose of ECT?

- By age-based dosing: energy level = patient's age divided by 2.

What tests do you include in your pre-ECT workup?

- Physical exam, FBC, RFT, ECG, CXR. Assess patient's dentition, especially for elderly or those who have inadequate dental care.

What is the preparation for the night before ET?

- Fasting is required after 12:00 midnight and she should avoid sleeping pills if possible.

What is the risk involved?

- ECT itself is safe. Risk is associated with anaesthesia.

How does ECT affect memory?

- Anterograde and retrograde amnesia can occur, though in the majority of patients this does not last more than a few months following the last ECT treatment.
- Amnesia of events immediately preceding and following ECT treatments may be permanent (reassure the relative that these memories are not important).
- Anterograde amnesia is always transient. In a very small number of patients, the symptoms of retrograde amnesia may be permanent.

What are other common side effects?

- Memory problems, confusion, nausea, muscle aches and headache are the most common in the morning after ECT.

What are the risk factors associated with confusion after ECT?

- Old age, prior cognitive impairment, lithium, anticholinergic and bilateral placement.

How would you reduce confusion after ECT?

- Unilateral treatment on the right side of the brain, lowering electrical energy, increasing the time between ECT treatments and holding off lithium or sleeping pills.

What is the mortality rate associated with ECT?

- The mortality rate is very low, and is the same as that for general anaesthesia, which is 1 in every 20,000 people.

4.1.22 Psychotherapy

Cognitive behaviour therapy and interpersonal therapy have the strongest evidence in treating depressive disorder

Cognitive Behaviour Therapy (CBT)

- **Frequency**: usually weekly or fortnightly
- **Duration**: requires 12 to 16 sessions
- **Cognitive therapy**: identifying negative automatic thoughts, using dysfunctional thought diary to identify patterns between time, events, negative thoughts and resultant emotions and behaviours; psychologist will read the diary and help patients gently challenge negative automatic thoughts
- **Behaviour therapy**: activity scheduling (for depressed patients with psychomotor retardation), relaxation techniques (for patients with mixed anxiety and depression)

Interpersonal Therapy (IPT)

- **Frequency**: weekly or fortnightly
- **Duration**: 12 to 20 sessions
- **Indications**: depression precipitated by interpersonal problems
- **Process**: psychologist closely examines interpersonal relationships, works with the patient to look at interpersonal relationships from another angle to minimise impact on mood, uses role- play to improve communication skills

Brief Dynamic Therapy: originates from psychoanalysis

- **Indications**: depression with predisposing factors related to past experiences (e.g. unpleasant childhood experience with one parent) leading to the use of maladaptive defence mechanisms and affecting current mood and personality development
- **Contraindications**: psychosis

Other Psychotherapies: dependent on clinical history and case formulation

- **Supportive psychotherapy**
- **Problem solving therapy**
- **Marital therapy**

4.1.23 Course and Prognosis

Duration

- **Mild/moderate depressive disorder**: 4-30 weeks
- **Severe depressive disorder**: 6 months (average)
- **Chronic disorder**: 2 years (10-20% of patients)

Rate of recurrence

- 30% at 10 years, 60% at 20 years

Suicide rate

- 20% higher in depressed individuals compared to general population

Prognostic Factors

- **Favourable**: acute onset of depressive illness, reactive depression, earlier age of onset
- **Unfavourable**: insidious onset, old age of onset (due to increase in white matter hyperintensities), neurotic depression, low self-esteem, residual symptoms

4.2 Bipolar Disorder

Bipolar disorder is a mood disorder with two different phases (manic phase and depressive phase).

4.2.1 Epidemiology

Table 4.18 *Epidemiology of Bipolar Disorder*

	international
Prevalence	Overall: 0.3-1.5% Bipolar I: 0.2-4% Bipolar II: 0.3-4.8%
Mean Age of Onset	20 years
Gender Ratio	F:M = 1:1

4.2.2 Aetiology

Genetics

- **Family studies**: children of parents suffering from bipolar disorder have a 9-fold increase in lifetime risk compared to general population
- **Heritability**: 79-93%
- **Twin studies**: concordance rate is 70% for monozygotic twins and 20% for dizygotic twins
- **Ion channel genes**: implicated in aetiology of bipolar disorder (e.g. calcium channels on chromosome 12)

Monoamine Theory

- Increased levels of noradrenaline, serotonin, and dopamine have been linked with manic symptoms
- Excitatory neurotransmitter glutamate is also implicated

Onset and First Manic Episode

- Diagnosis commonly delayed until early adulthood due to abnormal apoptosis in neural networks responsible for emotional regulation
    - Median age of onset: mid-20s
    - Mean age of first hospitalisation: 26years
- First manic episodes often precipitated by life events e.g. bereavement, personal separation, work-related problems, loss of role
- Important precipitating factors: high expressed emotion, sleep deprivation

Depressive and Manic Episodes

- 1 in 10 patients who suffer from a depressive episode will subsequently develop manic episode
- Antidepressant monotherapy is a recognised precipitant of first manic episode in patients predisposed to bipolar disorder
- In general, depressed patients with early age of onset, family history of bipolar disorder, depressive episode occurring during postnatal period, hypersomnia and psychotic symptoms are more likely to switch to mania

Circadian Rhythm

- **Sleep deprivation** and **flying overnight from West to East** may trigger relapse of mania

Kindling Hypothesis

- Kindling: persistent neuronal damage leads to mania recurrence without precipitating factors

- Subsequent manic episodes become more frequent
- Episode duration remains stable throughout the course of bipolar illness

Organic Causes of Mania

Figure 4.2 *Organic Causes of Mania*

Lesions in the right cerebral hemisphere are associated with mania.

Cerebrovascular Accident	Head Injury	Endocrine Causes
Mania is associated with right-sided cerebral vascular lesions and it is commonly associated with lesions in the frontal and temporal lobes.	Mania is associated with right-sided hemispheric damage. Family history of mania is uncommon and patients are more irritable than euphoric.	1. Thyrotoxicosis 2. Thyroid hormone replacement 3. Cushingâ€™s syndrome
Illicit Substances	**Medications**	**Other CNS Disorders**
1. Amphetamine 2. Cannabis 3. Cocaine	1. Anticholinergic drugs 2. Dopamine agonists (e.g. bromocriptine and levodopa) 3. Corticosteroids or anabolic steroids 4. Withdrawal from baclofen, clonidine and fenfluramine	1. Cerebral tumour 2. Dementia 3. Epilepsy 4. AIDS 5. Multiple sclerosis

4.2.3 Diagnostic Criteria

Clinical Features

Table 4.19 *Clinical Features of Bipolar Disorder*

Reality axis	
Hallucination	**Delusion**
1. Mood-congruent: voices telling the patient that he has superhuman powers 2. Mood-incongruent: voices speaking to the patients about affectively neutral subjects	1. Mood-congruent: grandiose delusions 2. Mood-incongruent: delusions of reference and persecution
Appearance-behaviour axis	
General Appearance	**Behaviour**
1. Increased sociability or overfamiliarity	1. Increased activity and physical restlessness 2. Decreased need for sleep 3. Increased sexual energy (hypomania) / Sexual indiscretions (mania) 4. Mild overspending or other types of reckless or irresponsible behaviour (hypomania)/Foolhardy and reckless behaviour with lack of awareness (mania) 5. Loss of social inhibition, resulting inappropriate behaviour
Thought-speech axis	
Thoughts	**Speech**
1. Difficulty in concentration with distractibility 2. Flight of ideas or racing thoughts (only in mania but not hypomania) 3. Inflated self-esteem and grandiosity (only in mania but not hypomania) 4. Constant change in plans (only in mania but not hypomania)	1. Increased talkativeness
Affect-interest axis	
Affect	**Interest**
1. Elevated mood and irritability	1. Increased goal-directed activity (either socially, at work or school or sexually) or excessive involvement in pleasurable activities that have high potential for

	painful consequences (e.g. unrestrained buying sprees, sexual indiscretion or foolish business)

DSM-5 Diagnostic Criteria

Manic Episode

A manic episode is characterized by an individual having persistent elevated or irritable mood which is present for most of the days within a time period of at least one week. In addition, the individual needs to have at least 3 (4 if mood is only irritable) of the following symptoms:

1. Increased self confidence
2. Reduction in the need for sleep
3. More chatty than usual, with increased pressure to talk
4. Racing thoughts
5. Easily distractible
6. Increase in number of activities engaged
7. Involvement in activities that might have a potential for serious consequences

There must be marked impairments in terms of functioning with the onset of the above symptomatology.

Bipolar I Disorder

An individual must have at least 1 manic episode in order to fulfil the diagnostic criteria of Bipolar I disorder. For manic episodes triggered by antidepressant use or electroconvulsive therapy, the diagnosis of Bipolar I disorder can still be made if symptoms persist even upon the discontinuation of the existing treatment.

Bipolar II Disorder

For an individual to be diagnosed with bipolar II disorder, there must be a past or current hypomanic episode, in addition to a current or past major depressive episode.

In addition, the symptoms must affect functioning but must not be severe enough to cause marked impairment. This diagnosis should not be made if there has been a previous manic episode.

Hypomania

A hypomanic episode is characterized by an individual having persistent elevated or irritable mood, present for most of the days within a time period of at least four days. In addition, the individual needs to have at least 3 (4 if the mood is only irritable) of the following symptoms:

1. Increased self confidence
2. Reduction in the need for sleep
3. More chatty than usual, with increased pressure to talk
4. Racing thoughts
5. Easily distractible
6. Increase in number of activities engaged
7. Involvement in activities that might have a potential for serious consequences

Note that for individuals with hypomanic episodes, their level of function will not be markedly impaired.

Mixed Episode

Patients must fulfil both manic and major depressive symptoms for at least one week.

Rapid Cycling Disorder

Rapid cycling as a course of bipolar disorder consists of at least four episodes of mood disturbance (manic, hypomanic and major depressive episodes) in one year. Ultra-rapid cycling is a rare condition which describes four or more episodes in a month.

Rapid cycling is more common in women, occurs later in the course of bipolar illness, and its frequency can be increased by antidepressant use.

Other Specified Bipolar and Related Disorders

- Hypomanic episodes of short duration (2-3 days) and major depressive episodes
- Hypomanic episodes with lack of symptoms and major depressive episodes
- Hypomanic episodes without previous major depressive episode
- Cyclothymia of less than 2 years' duration

4.2.4 OSCE Grid

You have been asked to see a 28-year-old unemployed man who has not slept for five days and claims to have full energy. He claims to be the President of Singapore and his plan is to unite all world leaders to fight poverty in developing countries.

Task: Take a history to establish the diagnosis of bipolar disorder.

Table 4.20 *OSCE Grid: Bipolar Disorder*

A) Assess mood symptoms		
A1) Mood	A2) Irritability	A3) Grandiosity
How is your mood today? Can you rate your current mood on a scale of 1 to 10, where 1 is very depressed and 10 is very happy? How long have you been feeling high? Do you have mood swings/ How about feeling low? Roughly how many low or high episodes do you experience in a year?	How have you been getting on with people recently? Do you feel that they annoy you? Do you lose your temper easily? What would you do if people irritate you?	How would you compare yourself to other people? Are you special? Please tell me more. Could your special ability be a misunderstanding? Can you provide more evidence about it? Do you feel that you are superior to other people?
B) Assess biological symptoms		
B1) Sleep and energy	B2) Appetite and weight	B3) Sexual function
How has your sleep been lately? What is your energy level like? Do you feel that you need much less sleep but you are still full of energy?	How has your appetite been lately? Have you lost weight recently?	I am going to ask you some sensitive questions. How has your interest in sex been lately? Have you had sex with any new partners? Do you take any precautions to protect yourself (e.g. condom)? If the patient is female, ask about the last menstrual period and possibility of pregnancy

C) Assess cognitive and psychotic symptoms		
C1) Interest and plans	C2) Thoughts and speech	C3) Psychotic features
Could you tell me about your interests? Have you developed any new interests lately? Do you have any new plans or commitments at this moment? (e.g. starting a new business or investment)	Has there been any change in your thinking lately? Have you noticed that your thoughts speed up? Do you find your thoughts racing in your mind? Do your family members say that the topics in your speech change faster than they can follow?	When people are under stress, they sometimes have unusual experiences such as hearing a voice talking to them when no one is around. Do you encounter such experiences? What did the voices say? How many voices spoke at one time? Do you believe that you have special powers or status which other people do not have? Can you tell me about this special power or status? Are you very certain that you have such ability or status?
D) Assess risk and insight		
D1) Risk	D2) Comorbidities	D3) Insight
Have you been buying a lot of things? Have you incurred a lot of debts (e.g. credit card bills)? Do you drive? Have you been involved in speeding or traffic offences? Have you been in trouble with the police lately? (e.g. due to violence) When you feel sad, do you have thoughts of harming yourself?	Do you take recreational drugs on a regular basis to get high? What about alcohol? Do you drink on a regular basis?	Is there any reason why you encounter these experiences? Do you think there might be an illness in your mind which affects your mood? Do you think you might need treatment?

4.2.5 Investigations

1. FBC, ESR
2. LFT, RFT, TFT, fasting lipids, glucose, body weigh measurement (mood stabilisers associated with metabolic syndrome)
3. VDRL
4. Urine drug screen

5. Pregnancy test (for female patients who may be pregnant)
6. CT/MRI to rule out space occupying lesion, infarction haemorrhage
7. ECG to rule out prolonged QTc
8. EEG to rule out epilepsy

4.2.6 Questionnaire

Young Mania Rating Scale (YMRS)

The YMRS is an 11-item questionnaire which helps clinicians to measure the severity of manic episodes in children and adolescents between the ages of 5 and 17 and adults. Its structure is similar to the Hamilton Depression Scale.

4.2.7 Management

Mania: Acute Management

- **Hospitalisation**: may be necessary in patients presenting with severe manic symptoms or with serious risk e.g. violence, sexual indiscretions; some manic patients refusing treatment may require admission under the Mental Disorder and Treatment Act
- **Pharmacological**
    - **Antipsychotics**: haloperidol, aripiprazole, olanzapine, quetiapine, risperidone or ziprasidone may be used for the treatment of acute mania.
    - **Mood stabilisers**: sodium valproate or carbamazepine monotherapy may be used for the treatment of acute mania; lamotrigine should not be used for the treatment of acute mania, as it lacks efficacy in this area
    - **Combination pharmacotherapy**: antipsychotic and mood stabiliser may be used together for patients showing inadequate response to mood stabiliser monotherapy
    - **Agitation**: haloperidol (IM/oral), olanzapine (oral), clonazepam or lorazepam (IM/oral) may be used in the acute treatment of agitation in mania

Bipolar Depression: Acute Management

For mild depressive symptoms, it is recommended to review patients in 1 to 2 weeks without giving an antidepressant. If depressive symptoms are moderate to severe, consider adding antidepressant to a mood stabiliser.

- **Pharmacological**
    - **Antidepressants**: Should be used cautiously in combination with mood stabilisers for bipolar depression due to conflicting evidence of efficacy and risk of inducing a manic episode; SSRIs such as fluoxetine are first-line treatment
    - **Mood stabilisers**:
        - Lithium may be used in the treatment of bipolar depression

        - Monotherapy with sodium valproate or carbamazepine is not recommended in the treatment of bipolar depression due to conflicting evidence regarding efficacy
        - Insufficient evidence to recommend lamotrigine monotherapy in the treatment of bipolar depression; however it is recommended as an add-on for patients already on lithium for treatment of bipolar depression
    - **Antipsychotics**: quetiapine monotherapy, olanzapine monotherapy or olanzapine-fluoxetine combination may be used in the treatment of bipolar depression
- **Psychotherapy** (e.g. CBT) is recommended for patients with bipolar depression.

Rapid Cycling

Non-pharmacological treatments should not be used for patients with rapid cycling bipolar disorder due to insufficient evidence.

Mixed States

Mood stabilisers may be used when treating mixed states. Of these, valproate and carbamazepine have more evidence for efficacy compared to lithium, and are therefore preferred.

Maintenance Treatment

Lithium, valproate or olanzapine may be used as maintenance therapy in preventing relapse to either pole of illness in patients with bipolar disorder.

Aripiprazole may be used as maintenance therapy in bipolar patients with recent manic or mixed episode.

Quetiapine, in combination with lithium or valproate, may be used as maintenance therapy in patients with bipolar I disorder.

In very severe cases, the combination of lithium and valproate is possible and this should be a specialist's decision.

A patient is advised to continue treatment for at least 2 years after an episode of bipolar disorder and up to 5 years if there is a significant risk of relapse.

Bipolar Disorder and Pregnancy

- **Preferred**
    - Typical antipsychotics, such as chlorpromazine and haloperidol, may be considered for treatment of pregnant women with bipolar disorder, as they appear less likely than atypical antipsychotics to cause metabolic complications and other serious adverse effects
    - Electroconvulsive therapy may be considered as a treatment option in pregnancy for the same indications as in non-pregnant patients

- For pregnant women with bipolar disorder, consider switching to antipsychotic treatment, or gradual decrement (over 15-30 days) of monotherapy mood stabiliser to the lowest effective amount in divided doses during pregnancy; concurrent careful foetal monitoring is recommended
- Sodium valproate and carbamazepine are preferable to lithium and lamotrigine during breastfeeding; mothers who require the latter two medications may be advised to consider abstinence from breastfeeding for the infant's safety
- In the event of breastfeeding while taking mood stabilisers, consider administering feeds before taking medication and discarding the first post-dose batch of expressed milk, so as to minimise the infant's consumption of medication via breast milk

- **Less Preferred**
  - Women on combined oral contraceptive pills who are concurrently taking carbamazepine and/or lamotrigine should be advised of the risk of decreased contraceptive effect as a result of drug interactions
  - Lithium may cause Ebstein abnormality in foetal hearts
  - Use of sodium valproate in women of childbearing age should be balanced against the risk of decreased fertility, foetal malformations and perinatal complications; sodium valproate may cause polycystic ovary syndrome, reduce the chance of pregnancy, and cause neural tube defects in foetuses; periconceptional folate supplementation should be prescribed to protect against neural tube defects

4.2.8 Mood Stabilisers

Table 4.21 *Mood Stabilisers*

Lithium	Sodium Valproate CR (Epilim Chrono)	Carbamazepine CR (Tegretol CR)	Lamotrigine (Lacmatil)
Dose			
• Start at 400mg PO • Maximum 1200mg/day	• Start at 500mg/day • Maximum 1300mg/day	400-800mg	Slow titration required to avoid skin rash 25mg/day for two weeks, doubling the dose every two weeks to a maximum of 400mg/day
Monitoring			
Lithium level every 3 months (maintenance range: 0.4-0.8mmol/L) RFT every 6 months TFT every year	LFT is necessary before starting a patient on sodium valproate	Currently compulsory in Singapore to test for HLA-B*1502 prior to commencement of carbamazepine	NIL
Indication			

Lithium	Sodium Valproate CR (Epilim Chrono)	Carbamazepine CR (Tegretol CR)	Lamotrigine (Lacmatil)
• First-line treatment in bipolar disorder • Often used with antidepressants and other mood stabilisers in bipolar depression Reduces suicidal ideation in bipolar patients	• Can be combined with antipsychotics in treatment of mania (lower dose of antipsychotic required) • Effective in maintenance treatment to prevent mood episodes Renal failure • Rapid cycling disorder Contraindicated in liver failure	• Generally effective in maintenance treatment to prevent mood episodes • Patients with bipolar disorder concerned about weight gain caused by lithium/valproate (carbamazepine does not cause weight gain)	• Doubtful efficacy in mania • Effective in bipolar depression in Bipolar I patients
Properties			
• Onset of action: 5-14d • Anti-mania effect proportional to plasma levels (0.4-0.8mEq/L in Asian patients)	• Efficacy superior to placebo but equal to lithium, haloperidol, olanzapine • Effective plasma levels: 50-99mg/L but clinical response is more important	Application limited by properties as enzyme inducer causing side effects e.g. diplopia, blurred vision, ataxia, somnolence, fatigue, nausea, blood dyscrasia No data on plasma levels and response	Clear efficacy at 200mg/day for bipolar depression in Bipolar I
Mechanism of Action			
• Increases Na/K/ATPase activity • Affects serotonin, noradrenaline, dopamine, acetylcholine Interferes with cAMP (second messenger system)	Enhances GABA function and produces neuroinhibitory effects on mania	Enzyme inducer	Sodium channel blocker for epilepsy treatment Unknown mechanism in treatment of bipolar depression
Side Effects			
Common:	**Common**:	**Common**:	**Common**:

Lithium	Sodium Valproate CR (Epilim Chrono)	Carbamazepine CR (Tegretol CR)	Lamotrigine (Lacmatil)
• Metallic taste • Nausea • Polydipsia • Polyuria • Oedema • Weight gain • Fine tremor **Long-term complications**: • Hypothyroidism • Renal failure **Dermatological**: Worsens psoriasis	• Weight gain • Nausea • Gastric irritation • Diarrhoea • Hair loss **Serious**: • Thrombocytopaenia • Polycystic ovary syndrome	• Dizziness • Somnolence • Nausea • Dry mouth • Oedema • Hyponatraemia (due to potentiation of ADH) • Increased ALP, GGT **Uncommon**: • Ataxia • Diplopia • Nystagmus • Serious exfoliative dermatological reactions (3% of patients, requires cessation of carbamazepine) • Agranulocytosis Leucopaenia • Aplastic anaemia	• Dizziness • Headache • Diplopia • Nausea • Ataxia **Uncommon**: Lamotrigine-associated rash hold next dose, seek immediate medical attention)

Lithium Toxicity

Causes of a raised lithium level include:

- Drugs
  - Thiazides
  - ACE inhibitors
  - NSAIDs
- Dehydration

Table 4.22 *Signs and Severity of Lithium Toxicity*

Lithium Level	Signs of Lithium Toxicity
1.5-2.0 mmol/L (Mild toxicity)	• CNS: drowsiness, malaise, poor concentration; toxic signs do not closely follow changes in lithium blood levels • PNS: muscle weakness, severe fine tremor • GIT: anorexia, diarrhoea resembling gastroenteritis
2.0-3.0 mmol/L (Moderate toxicity)	• CNS: disorientation, dysarthria • CVS: arrhythmia • PNS: coarse tremor, restlessness, ataxia • GIT: vomiting
> 3.0 mmol/L (Severe toxicity)	• CNS: confusion, convulsion, coma • CVS: cardiovascular collapse • Respiratory: severe viscosity of respiratory secretions
> 5.0 mmol/L	May lead to permanent physical damage and mortality

Management of lithium toxicity involves cessation of lithium and haemodialysis (may be necessary when serum levels exceed 3 mmol/L)

4.2.9 OSCE

A patient was admitted to the psychiatric ward after a manic episode. The consultant psychiatrist has advised him to consider taking lithium as a maintenance treatment. The patient is very concerned about bipolar disorder and lithium after reading information from the internet.

Task: address this patient's concerns about lithium treatment.

Why do you want to prescribe lithium?

- Lithium is used to stabilise your mood. After my assessment, it seem that your mood is elevated and you suffer from a condition called mania in the context of bipolar disorder.

What is mania?

- Feeling high, irritable, full of energy, having a very good appetite, no need for sleep, high sexual drive, racing thoughts, grandiose ideas, overspending, poor judgement, dangerous behaviour and unusual experiences such as hearing voices.

Why do I sometimes feel depressed?

- Periods of depression occur in bipolar disorder. Your mood will go up and down.

What exactly is lithium?

- It is a type of salt and can be found naturally.

How long have psychiatrists been using lithium?

- 50 years already.

What is the usual dose of lithium?

- Starting dose 400mg a day, increasing slowly to 800mg to 1200mg per day.

How do you decide the right dose for me?

- Based on serum levels 0.4 - 0.8 mmol/L as well as clinical response.

What time of the day should I take lithium?

- Usually at night. Modern lithium has a long release version and can last for an entire day.

What should I do if I miss a dose?

- If you forget a dose, take it as soon as you remember.

Can I take lithium now?

- No, we need to do some blood tests for you.

Why do you need those blood tests?

- We need to do blood tests to make sure it is safe for you to take lithium. Your kidneys and thyroid have to be in good condition.

Do I only need to have those blood tests once?

- Lithium may affect the function of your kidneys and thyroid; we have to check every six months.

Lithium sounds scary. How do you know it is safe for me to take?

- It is usually safe if your kidney and thyroid are in good condition. Extra care is needed if you take painkillers or medication containing sodium.

How do I know if lithium works for me?

- Your highs and lows should become less extreme. It will reduce thoughts of harming oneself. It may take weeks or months to appreciate the beneficial effects of lithium.

Can I mix alcohol with lithium?

- No, it will lead to drowsiness if lithium is combined with alcohol, and therefore an increase in fall risk and accidents. Avoid alcohol in the first two months; if you need to drink socially, try a small amount & see how you feel. Don't drink and take lithium when you drive.

When I feel better can I stop taking lithium?

- You should not stop suddenly, and should consult your doctor. Lithium is usually a long-term treatment.

Is lithium addictive?

- No, because you do not need to take more and more lithium to achieve the same effect.

Do I need to know anything else as I stay in Singapore?

- Drink enough water in hot weather. Lack of water in body may cause more side effects.

My younger brother likes to steal my medicine. What would happen to him if he swallows a large amount of lithium?

- Lithium is toxic if a person takes an overdose. A person will first present with loose stools/vomiting, then very shaky hands, unsteady walking, confusion and may die. You need to send the person to the Emergency Department immediately.

What are other alternatives besides lithium?

- There are other medications which can stabilise patient's mood which are anti-fit/epilepsy medication.

4.2.10 Non-Pharmacological Treatment

Cognitive therapy

Challenge grandiose thoughts

Behaviour therapy

Maintain regular pattern of daily activities

Psychoeducation

Aetiology, signs, symptoms, management, relapse prevention of bipolar disorder

Family therapy

Work on impact of manic symptoms on family, resolve interpersonal problems

Relapse drills

Identify symptoms and formulate a plan to seek help in early manic phase

4.2.11 Course and Prognosis

Duration

- **Manic episodes**: usually between 2 weeks to 4 months
- **Depressive episodes**: usually last for 6 months Frequency

Frequency

- Length of time between subsequent episodes may begin to narrow
- Remission time decreases with increasing age
- Lithium can bring 60-70% remission rate

Prognostic Factors

- **Favourable**: female gender, short duration of manic episode, later age of onset, no suicidal thoughts, less psychotic symptoms, few comorbid physical conditions, good compliance
- **Poor**: male gender, long duration of manic episode, early age of onset, suicidal thought, depressive symptoms, psychotic symptoms, comorbidity (e.g. alcohol or drug misuse), poor compliance

4.3 Suicide and Deliberate Self-Harm

Table 4.23 *Epidemiology and Aetiology of Suicide and Deliberate Self-Harm*

	Suicide	Deliberate Self-Harm
Epidemiology	• Male: Female = 3:1 • More common in older people • Suicide rates in Singapore remained stable between 9.8-13.0/100,000 from 1955 to 2004 Rates remain highest in elderly men • Rates in ethnic Chinese and Indians were consistently higher than in Malays • The rates among female Indians and Chinese have declined significantly between 1995 and 2004; some increase was noted in female Malays	• More common in women • Most common in adolescents • It is estimated that 7-14% of adolescents have self- harmed (UK)
Aetiology	**Demographics:** • Male gender • Older age • Single/Divorced • Professions (policemen/guards with access to firearms, bartender, medical professionals) **Past psychiatric history:** • Previous suicide attempt • Past history of depression or psychosis Alcohol/drug misuse **Past medical history:** • Chronic painful illness (e.g. terminal cancer) **Social factors:** • Isolation/ lack of social network	• Expression of emotional distress (e.g. sadness, loneliness, emptiness, grief) • Expression of social problems and trauma (e.g. difficult relationships, bullying) • Problems with identity e.g. borderline personality disorder, sexuality • Secondary to psychiatric disorder (e.g. command hallucinations in schizophrenia)

	Suicide	Deliberate Self-Harm
	• Significant life event e.g. death, losing job, relationship breakdown, abuse	

Common methods used in Singapore between 2000 and 2004 were jumping (72.4%), hanging (16.6%), and poisoning (5.9%).

Types of self-harm include: cutting (usually of the wrists or forearms), scratching, burning skin or banging the head against the wall.

Questionnaire

The SAD PERSONS assessment tool by Patterson et al (1983) is used to assess suicide risk.

Table 4.24 *SAD PERSONS Assessment Tool*

Item	Score
Sex: male	1
Age: < 19 or > 45	1
Depression/hopelessness	1
Previous suicide attempts	1
Excessive alcohol/drug use	1
Psychosis	1
Separated/widowed/divorced	1
Serious attempt (e.g. hanging, stabbing)	1
No social support	1
Stated future intent	1

Scoring:

- < 6: may be safe to discharge
- 6-8: refer for psychiatric assessment
- > 8: urgent admission

4.3.1 OSCE Grid

Video 4.1 *Suicide Risk Assessment*

A 24-year-old woman took an overdose of 20 tablets of paracetamol. She is brought in by her partner to the Accident and Emergency Department where you are the resident on duty.

Task: Assess her suicide risk.

Table 4.25 *OSCE Grid: Suicide Risk Assessment*

A) Assess suicide plan and intent		
A1) Introduction	A2) Plan	A3) Intent
I am Dr. XXX. I can imagine that you have gone through some difficult experiences. Can you tell me more about it? Can you tell me why you took the 20 tablets of paracetamol tonight? Was there any life event leading to this suicide attempt?	Was the overdose planned? How long have you thought about it? How did you obtain the paracetamol tablets? What did you think would happen when you took the paracetamol?	Did you intend to take your life via the overdose?
B) Assess circumstances of suicide attempt		
B1) Location of attempt	B2) Severity of overdose and other self-harm	B3) Suicide note or goodbye message
Where did you take the medication? Was anyone else there? Were you likely to be found? Did you lock the door or take any precautions to avoid discovery?	Besides paracetamol did you take any other medication? Did you mix the paracetamol with alcohol? Did you harm yourself by other means (e.g. cutting yourself)?	Did you leave a suicide note? Did you send a message via text or email to say goodbye to your partner or family members?
Assess events after suicide attempt		
C1) Discovery	C2) Physical complications	C3) Current suicide risk

How did you come to be in the A&E? Were you discovered by other people? How did they discover you?	Did the overdose lead to any discomfort (e.g. severe vomiting)? Did you have any period of loss of consciousness? How do you feel about your suicide attempt now? Are you regretful of having attempted suicide? Would you do it again?	How do you feel about your suicide attempt now? Are you regretful of having attempted suicide? Would you do it again?
Assess other risk factors and protective factors		
D1) Past history of suicide	D2) Past psychiatric/medical history	D3) Protective factors
Have you attempted suicide previously? How many times? What are the usual ways you have tried to commit suicide? Have you ever tried other methods such as hanging, stabbing yourself, jumping from heights or drowning?	Do you have any history of mental illness (e.g. depression)? (take a brief history of mood and past treatment if depression is present) Are you suffering from any other illnesses (e.g. chronic pain)?	We have discussed quite a lot about the overdose and some unhappy events. Are there things in life that you look forward to? Who are the people supporting you at this moment? What about religion?

4.4 Bereavement and Abnormal Grief

Table 4.26 *Grief and Depression*

Bereavement	Intense Anniversary Reaction	Pathological Grief	Depressive Episode
• Phase I: Denial • Phase II: Anger • Phase III: Bargaining • Phase IV: Depression • Phase V: Acceptance	e.g. on Christmas day, a 64-year- old woman was brought to the emergency department as she suddenly became tearful and started hitting herself. Upon further enquiry, it was revealed that her daughter was killed in a road traffic accident on Christmas eve two years ago.	• **Inhibited grief**: absence of expected grief symptoms at any stage • **Delayed grief**: avoidance of painful symptoms within two weeks of loss • **Chronic grief**: continued significant grief-	• A person may undergo depression after bereavement; the following features suggest depression rather than bereavement: • Guilt, suicidal thoughts and hallucinations not related to the deceased

Bereavement	Intense Anniversary Reaction	Pathological Grief	Depressive Episode
		related symptoms > 6 months after loss	• Feelings of worthlessness • Psychomotor retardation • Prolonged and marked functional impairment

Anticipatory grief is a grief reaction which can occur in a person who is dying or people close to them.

Management of Abnormal Grief

Grief therapy focuses on talking about the deceased, preparing for future life without the deceased, planning to discard items related to the deceased, and having closure of unresolved issues related to the deceased.

4.5 Seasonal Affective Disorder

Definition

A form of recurrent depressive disorder in which sufferers consistently experience low mood in winter months

Symptoms

- Increased appetite, craving for sugar or rice, low energy, increased sleep, weight gain
- Worst months:
    - US: January, February
    - Europe: November, December

Aetiology

- Melatonin/pineal gland abnormalities, replaced by theories on disordered brain 5HT regulation, phase-advanced circadian rhythms
- Biologically vulnerable individuals affected by the actual effect of the changes in the seasons and specific anniversary or environmental factors in winter

Epidemiology

3% in Europe

Clinical Features

- **Features of atypical depression**:
- Hypersomnia, hyperphagia, tiredness, low mood in winter
- **ICD-10 criteria**:
    - 3 or more episodes of mood disorder must occur with onset within the same 90-day period of the year for 3 or more consecutive days
    - Remission also occurs within a particular 90-day period of the year
    - Seasonal episodes substantially outnumber any non-seasonal episodes that may occur

Management

- **Light therapy**: special light box which emits 2500 lux and mimics the effect of sunlight for at least 2 hours every morning (or 10000 lux for 30 minutes)
    - Exposure to eyes important to alter circadian rhythm
    - Effects seen within a few days but full effect takes 2 weeks
    - Light box should be used for 0.5h/day starting in autumn and throughout winter months to prevent relapse
    - Lowers melatonin levels
    - Clinical significant response in 50% of people with SAD
    - Untreated episodes resolve by spring time
    - Side effects: jumpiness, headache and nausea (15% of patients)
- **Sleep deprivation**

Key Learning Points

1. Beck's triad of depression (cognitive errors consisting of negative views about self, world and future) is a useful framework to assess a depressed patient with.
2. Depression may manifest with cognitive deficits as a pseudodementia characterised by equal loss for recent and remote events, patchy or specific memory loss, largely intact attention and concentration, and frequent "don't know" answers, all of which are useful in differentiating from true dementia.
3. Antidepressants causing minimal sexual dysfunction include mirtazapine and bupropion.
4. Although both may present similarly, serotonin syndrome is a dangerous complication of combination SSRI use whereas neuroleptic malignant syndrome is a dangerous complication of antipsychotic overdose.

☐	5. Quality of seizure termination in electroconvulsive therapy can be assessed from the length of the seizure (at least 25 seconds) and the presence of an intense EEG tracing during the seizure with abrupt drop-off.
☐	6. Electroconvulsive therapy is itself safe, and associated risks are those of anaesthesia.
☐	7. In evaluating a patient with bipolar disorder, potential risks which must be assessed include driving, spending, violence, forensic, sexual indiscretion, drugs and alcohol.
☐	8. With regard to mood stabilisers, renal failure patients should not be prescribed lithium whereas liver failure patients should not be prescribed valproate.
☐	9. In assessing a patient who has attempted suicide, it is useful to ask about events prior to the incident (precipitants, planning, intention), the incident itself (where, when, how, severity), and events following the incident (discovery, physical complications, and current suicide risk).
☐	10. Abnormal grief can be inhibited, delayed, or chronic.

Revision MCQs and MEQs

MCQ

1. A mother worries that her daughter will develop depression because of a family history of depressive disorder. Which of the following genes is associated with increased risk?

a. Apo E4 gene on chromosome 21
b. COMT gene on chromosome 21
c. Presenilin-2 gene on chromosome 1
d. Presenilin-1 gene on chromosome 14
e. Serotonin transporter gene

Answer:
The serotonin transporter gene is implicated in the aetiology of depressive disorder. Short allele (SS) variation in the promoter region of the 5- hydroxytryptamine transporter gene (5-HTTLPR) decreases the transcriptional efficacy of serotonin and causes major depressive disorder in response to stressful life events.

2. A 32-year-old woman suffers from a severe depressive episode. She has three young children studying in primary school. She is unemployed with no confiding relationship. Which of the following works provides an explanation in her case?

a. Brown and Harris: Social Origins of Depression
b. Durkheim E: Anomie
c. Hagermas J: The Theory of Communicative Action
d. Parsons T: The Social System
e. Sullivan HS: The Interpersonal Theory of Psychiatry

Answer:
G.W. Brown and T. Harris published 'Social Origins of Depression: A study of psychiatric disorder in women' in 1978. In this book, Brown and Harris stated that women with three young children under the age of 14, unemployed and with no confiding relationship are more likely to develop depression.

3. You are teaching depressive disorder to a group of medical students. They want to know what percentage of patients admitted to the university hospital will have recurrence and require further admission in long run without committing suicide. Your answer is:

a. 20%
b. 30%
c. 40%
d. 60%
e. 80%

Answer:
An old British study showed that approximately 60% of patients had been re-admitted at least once. Only 20% had recovered fully with no further episodes and 20% were incapacitated throughout or died of suicide.

4. A 30-year-old woman suffers from depression with melancholic features. When compared to depressed patients without melancholia, which of the following statements is incorrect?

a. Cortisol is less likely to be suppressed when this patient is administered a dexamethasone suppression test
b. She is more likely to develop psychomotor retardation
c. She has greater symptom severity
d. She has increased REM latency
e. She has lower placebo response

Answer:
Depressed patients with melancholic features have decreased REM latency.

5. A 40-year-old woman suffers from severe depressive episode with psychotic features. Which of the following statements is incorrect?

a. Mood-incongruent psychotic features predict a better outcome
b. Psychotic symptoms must occur after manifestations of depressive symptoms

c. She has more biological abnormalities compared to depressed patients without psychotic features
d. She has poorer long-term outcome
e. She may benefit from ECT

Answer:
Mood-incongruent psychotic features predict a poorer course and outcome.

6. A 23-year-old woman complains of hearing voices. A core trainee is not certain whether this patient suffers from schizophrenia or bipolar disorder. Which of the following features suggest the diagnosis of bipolar disorder rather than schizophrenia?

a. Bizarre delusions
b. Persecutory delusions
c. Prominent affective symptoms and mood- congruent delusions
d. Systematised delusions
e. Thought broadcasting

Answer:
Prominent affective symptoms and mood- congruent delusions support the diagnosis of bipolar disorder.

7. A 30-year-old woman suffers from severe depressive episodes, but she tends to forget to take her medication at least twice a week. She finds it very difficult to take medication on a daily basis. She requests that you prescribe an antidepressant which suits her needs. Which of the following antidepressants would you recommend?

a. Duloxetine
b. Fluoxetine
c. Paroxetine
d. Sertraline
e. Venlafaxine

Answer:
The half-lives of the antidepressants are listed in descending order: fluoxetine (1–3 days), sertraline (26 hours), paroxetine (24 hours), duloxetine (12 hours) and venlafaxine (10 hours).

8. A 60-year-old woman complained of depression and was started by her GP on escitalopram. After two weeks of treatment, she complains of lethargy, muscle weakness and nausea. The GP wants to know the most likely cause for her symptoms. Your answer is:

a. Acute confusional state
b. Generalised anxiety disorder
c. Hyponatraemia
d. Serotonin syndrome
e. Somatisation disorder

Answer:
Hyponatraemia is common in old people receiving SSRI treatment. They present with lethargy, muscle ache and nausea. More severe cases present with cardiac failure, confusion and seizure.

9. Which of the following is least likely to be found in patients taking lithium when the lithium level is within therapeutic range?

a. ECG changes
b. Endocrine abnormalities
c. Nystagmus
d. Peripheral oedema
e. Weight gain

Answer:
Nystagmus occurs in lithium toxicity.

10. A 50-year-old woman with bipolar disorder is admitted to the medical ward and the medical consultant discovers that she has thrombocytopenia. The consultant wants to find out which of the following psychotropic medications is most likely to be responsible for thrombocytopenia. Your answer is:

a. Lithium
b. Olanzapine
c. Quetiapine
d. Sodium valproate
e. Zopiclone

Answer:
Sodium valproate is associated with thrombocytopaenia although it is an uncommon side effect.

11. A 30-year-old woman suffers from bipolar disorder and she is very concerned that she became pregnant although she takes oral contraceptive pills. Which of the following medications have led to the contraceptive failure?

a. Lithium
b. Lamotrigine
c. Carbamazepine
d. Valproate
e. Topiramate

Answer:
Carbamazepine is an inducer of cytochrome P450 and it has led to contraceptive failure in this woman.

MEQ

A 70-year-old man is brought by his wife to the Accident and Emergency Department because he wanted to jump from his HDB flat. He has a history of prostate cancer and the oncologist has started a new chemotherapy which results in side effects. He is concerned with somatic complaints and appears to be anxious during the interview. He has history of depression 10 years ago. His GP started fluoxetine 20mg OM two weeks ago but his symptoms have not improved.

1. Is his suicide risk high or low?

Answer:
This man has a high suicide risk

2. List the tell-tale signs in the history which support your risk assessment.

Answer:
Dangerous method of suicide attempt:
jumping Old age, male gender History of depression Neurotic depression and preoccupation with somatic complaints.

3. His wife is ambivalent about admission to the psychiatric ward. State four reasons why this man should be admitted.

Answer:
Prevention of suicide attempt
To find an effective antidepressant or to adjust the dose of current antidepressant
To liaise with the oncologist about the side effects of chemotherapy
Referral to a psychologist for psychotherapy

4. If this man is admitted to the ward, what nursing instructions would you suggest?

Answer:
Put this man under close monitoring for suicide attempts (i.e. suicide precaution)

5. He is concerned about the side effects of fluoxetine. List five common side effects associated with fluoxetine.

Answer:
Anxiety
Insomnia
Nausea
Headache
Diarrhoea

EMIS

1. John over the past 2 years, has been having many episodes of feeling elated and needing less sleep than usual. This is then accompanied by a couple of weeks of feeling extremely depressed and lethargic. He is still able to function during these episodes.

a. Bipolar I disorder
b. Bipolar II disorder
c. Cyclothymia
d. Hypomania
e. Rapid cycling bipolar disorder
f. Ultra-rapid cycling bipolar disorder

2. David is a patient with affective disorder who has been on lithium treatment. He has 5 episodes of either mania or depression each year and now wishes to change his medications to be able to control the frequency of these episodes.

a. Bipolar I disorder
b. Bipolar II disorder
c. Cyclothymia
d. Hypomania
e. Rapid cycling bipolar disorder
f. Ultra-rapid cycling bipolar disorder

3. Charles was originally diagnosed with depression and started on medications. He now presents with a history of feeling elated, needing less sleep and feeling very energetic.

a. Bipolar I disorder
b. Bipolar II disorder
c. Cyclothymia
d. Hypomania
e. Rapid cycling bipolar disorder
f. Ultra-rapid cycling bipolar disorder

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Chapter 5
Anxiety, Phobia & Stress-Related Disorders

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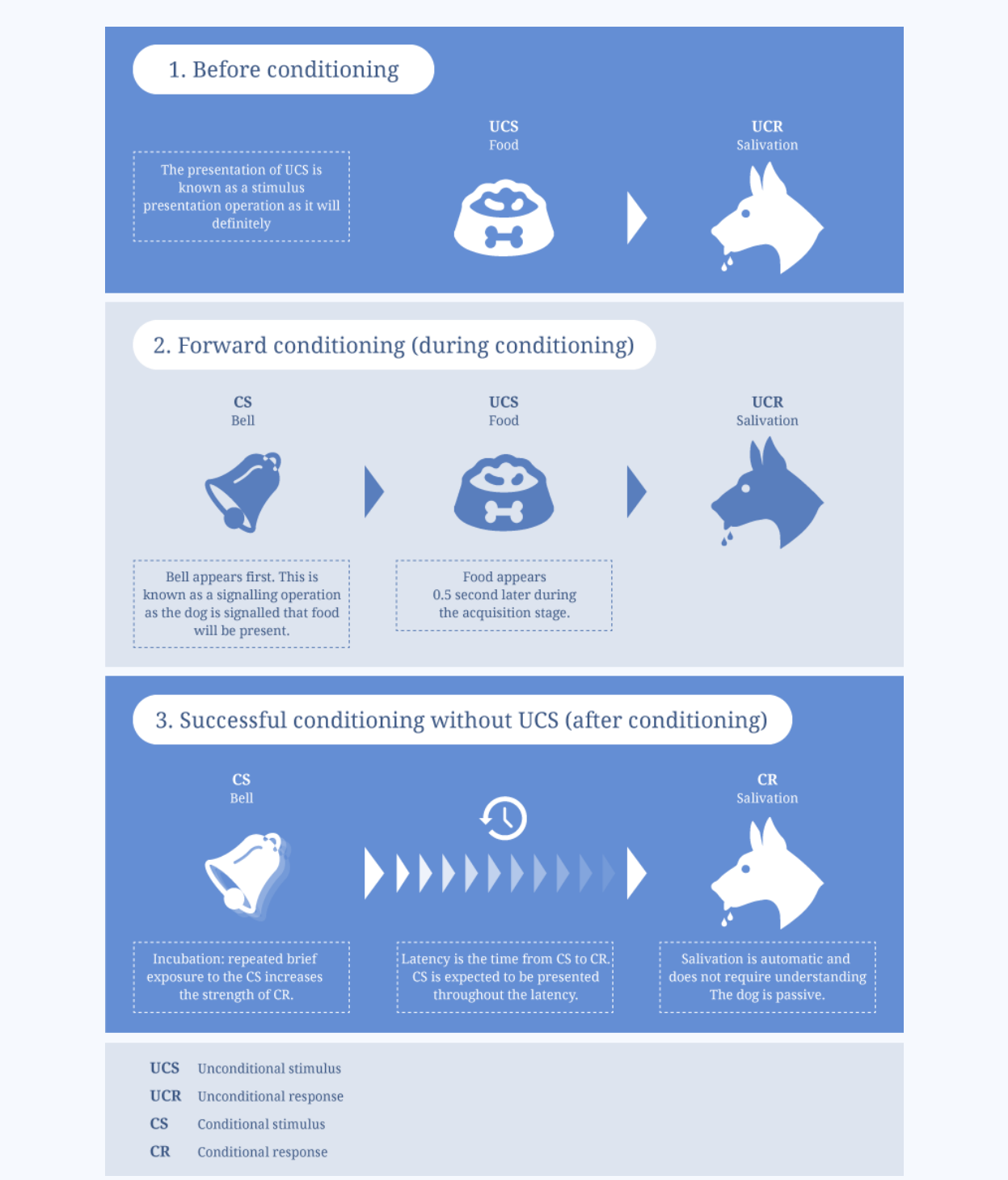
5.1 Principles of Learning Theory

Classical Conditioning and Pavlov's Experiment

Figure 5.1 *Classical Conditioning and Pavlov's Experiment*

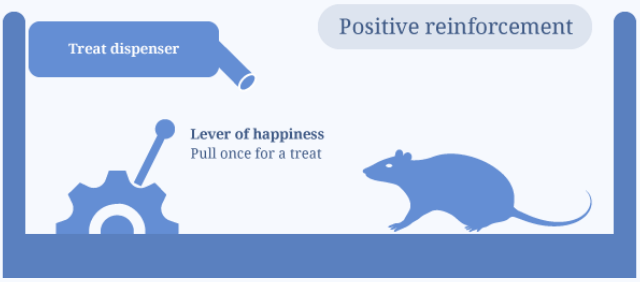

1. Before conditioning
UCS
Food
UCR
Salivation
The presentation of UCS is known as a stimulus presentation operation as it will definitely
2. Forward conditioning (during conditioning)
CS
Bell
UCS
Food
UCR
Salivation
Bell appears first. This is known as a signalling operation as the dog is signalled that food will be present.
Food appears 0.5 second later during the acquisition stage.
3. Successful conditioning without UCS (after conditioning)
CS
Bell
CR
Salivation
Incubation: repeated brief exposure to the CS increases the strength of CR.
Latency is the time from CS to CR. CS is expected to be presented throughout the latency.
Salivation is automatic and does not require understanding The dog is passive.
UCS Unconditional stimulus
UCR Unconditional response
CS Conditional stimulus
CR Conditional response

Clinical example: A cancer patient complains of nausea whenever he sees the hospital building. He comes to the hospital to receive chemotherapy and he feels nausea every time after he receives the chemotherapy. The chemotherapy is UCS and the hospital building is CS. The CR and UCR is nausea. Classical conditioning may explain why this patient always feels nausea when he sees the hospital building.

Operant Conditioning and Skinner's Experiments

Organisms learn by operating on the environment; this is known as operant conditioning. The operant is a response that has an effect on the environment.

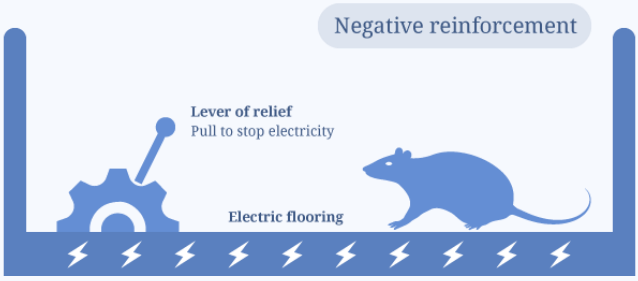
Figure 5.2 *Operant Conditioning and Skinner's Experiments*



Food is presented by pressing the lever.

The rat discovers that after pressing the lever (response), food will be released (positive reinforcer).

In this example, food is a **positive reinforcer** which strengthens the response (i.e. pressing the lever). If there is an absence of positive reinforcer, the response will decrease. If there is no release of food by pressing the lever, the rat will stop pressing the lever and extinction occurs. The speed of conditioning is proportional to the size or impact of the reinforcer.



Electric current is switched off (escape learning) or electric shock is avoided altogether (avoidance learning) by pressing the lever.

The rat receives a continuous electric current. It discovers that the electric current (aversive stimulus) will be switched off by pressing the lever (the response).

The success in switching off of electric current is a **negative reinforcer** which strengthens the response (i.e. pressing the lever) in removing or avoidance of the aversive stimulus.

Primary reinforcers: affect biological process; naturally reinforcing (e.g. food or sex)

Secondary reinforcers: associated with primary reinforcers and based on previous learning (e.g. money or being praised)

Clinical example: A 40-year-old man has developed pathological gambling and he cannot stop gambling despite multiple complaints from his family. When the doctor asks him why he still wants to gamble, he mentions that he won $10,000 in one day two years ago and this always encourages him to gamble. In this example, money is a secondary reinforcer and he continues to gamble as a result of positive reinforcement.

Clinical example: A 30-year-old woman develops agoraphobia and she tries to avoid leaving her house. When the doctor asks her why she refuses to leave the house, she replies that her home is a safer place and she can prevent panic attacks by staying at home. Hence, she develops avoidance of going out as a result of negative reinforcement.

5.2 Epidemiology Overview

Table 5.1 *Summary of Epidemiology*

Generalised Anxiety Disorder	Panic Disorders	Social Phobia	Agoraphobia
Incidence			
4.3%	1 year incidence in general population: 10%	1 year incidence in general population: 6%	• USA: ~2/10,000 person-years • Large numbers of people in the community with agoraphobia without panic disorder may not seek help
Prevalence and Lifetime Risk			
Adults: • Lifetime prevalence in Singapore: 3.3% • Prevalence in Singapore: 3% **Children/Adolescents**: Prevalence: 2% Girls > boys **Elderly**:	**Adults**: • Lifetime prevalence in UK: 8.6% • First-degree relatives of panic disorder patients: 8-31% **Children/Adolescents**: Prevalence: < 1%	**Adults**: Lifetime prevalence: 6% **Children/Adolescents**: • Social phobia: 1% • Simple phobias: 2-9% • Specific phobia: 3%	**Adults**: • Lifetime prevalence: 4% • 6 month prevalence: 3-6%

Generalised Anxiety Disorder	Panic Disorders	Social Phobia	Agoraphobia
• 5-15% over 65 years old • Prevalence increases in older people in Singapore			
Gender			
F:M = 3.6:1 (Singapore)	F>M	Gender ratio may be close or equal	• F:M = 2:1 • Commoner among housewives
Age of Onset			
20s	Bimodal peak: 15-24 and 45-54 years	Bimodal peak: 5 years and 11-15 years	• 25-35 years • Agoraphobia may occur before the onset of panic disorder
Life Events			
Stressful/traumatic life events important precipitants; may lead to alcohol misuse	Recent history of divorce or separation	Being criticised or scrutinised which results in humiliation	Usually follows traumatic event
Comorbidities			
Depressive disorder, alcohol misuse and other types of axiety disorders	• Alcohol misuse (30%), agoraphobia (40%), social phobia (50%), depressive disorder (70%) • Associated with mitral valve prolapse, hypertension, cardiomyopathy, COPD, irritable bowel syndrome	Depressive disorder, alcohol misuse	Panic disorder (50%), depression, other anxiety disorders
Inheritance			
Genetic factors have a role	• Heritability: 44%	More common among relatives of patients with	-

Generalised Anxiety Disorder	Panic Disorders	Social Phobia	Agoraphobia
	• Risk increases by 5 times for the presence of panic disorder in first-degree relatives of patients with panic disorder	social phobia than the general population	

5.3 Aetiology Overview

Figure 5.2 *Overview of Aetiology of Anxiety Disorders*

Noradrenaline (NA)	• **GAD**: 1) downregulation of α2 receptors and ↑ in autonomic arousal; 2) Electrical stimulation of locus coeruleus releases noradrenaline and generates anxiety. • **Panic disorder**: hypersensitivity of presynaptic α2 receptor and ↑ in adrenergic activity Yohimbine has high affinity for the α2-adrenergic receptors and it can induce panic attacks.
Serotonin (5HT)	• **GAD**: dysregulation of 5-HT system • **Panic disorder**: subsensitivity of 5HT1A receptors & exaggerated post-synaptic receptor response. • **OCD**: dysregulation of 5HT system
GABA	• **GAD**: ↓ in GABA activity. • **Panic disorder**: ↓ inhibitory receptor sensitivity and causes panic attack.
Cognitive theories	• **GAD**: selective attention to negative details, distortions in information processing and negative views on coping. • **Panic disorder**: classical conditioning and negative catastrophic thoughts during attacks. • **Agoraphobia and specific phobias**: conditioned fear responses lead to learned avoidance • **OCD**: compulsions are learned and reinforced
Psychodynamic theories	• **GAD**: symptoms of unresolved unconscious conflicts, early loss of parents, separation in childhood, overprotective parenting, anxious parent or parenting lacking warmth and responsiveness. • **Panic disorder**: arise from unsuccessful attempts to defend against anxiety provoking impulses. • **Agoraphobia and specific phobias**: unconscious conflicts are repressed and may be transformed by displacement in phobic symptoms.

Genetics	• **Heritability** • **GAD**: 30% • **Panic disorder**: 30% • **Agoraphobia relatives**: ↑ social phobia, other neurotic disorders, alcoholism & depressive disorders. • **OCD**: MZ: DZ = 50-80%: 25%; First degree relatives: 10% risk; • Heritability: 30%. • **Social phobia**: 50% MZ:DZ = 24%: 15% • **Animal phobia** MZ:DZ = 26%: 11%
Endocrine causes	• **GAD**: 30% of patients have reduced suppression to dexamethasone suppression test. • **Panic disorder**: hypothalamus amygdala and brainstem are involved. • **PTSD**: Low cortisol levels after trauma leads to PTSD (↑ glucocorticoid receptors in hypothalamus and leads to decreased peripheral cortisol) while high cortisol levels lead to depression. Enhanced response to dexamethasone suppression test.
Organic causes	• **GAD**: cardiac, thyroid, medication such as thyroxine. • **Panic disorder**: hypoglycaemia, thyrotoxicosis, phaeochromocytoma • CO2 act as a panic stimulant as an indicator for lack of O2 in the brain. Hence, breathing in -out of the paper bag makes panic attack worse. CCK and sodium lactate induce symptoms of panic disorder. There is increase in nocturnal melatonin production. • OCD: cell-mediated autoimmune factors against basal ganglia are involved.

Neuroimaging Findings

In OCD, there is an increase in resting blood flow and glucose metabolism in the orbital cortex and caudate nucleus. Dysfunction of the cortico-striatal-thalamic-cortical circuitry is also found in patients with OCD.

5.4 Management Overview

Investigations

- Thyroid function test: thyrotoxicosis
- Blood glucose: hypoglycaemia
- ECG or cardiac echocardiogram: atrial fibrillation, arrhythmias, other cardiac problems
- Urine drug screen in cases of suspected stimulant use
- Lung function test in cases of suspected COPD
- 24 hour urine catecholamine (to rule out phaeochromocytoma especially if there is coexisting hypertension and panic attacks)

Recommendations (MOH Guidelines)

Pharmacological treatment is indicated when symptoms are severe, there is significant impairment of social, occupational and role functioning, or there is concurrent moderate or severe depressive disorder.

Antidepressants are recommended as effective agents for the treatment of panic disorders, social phobia, obsessive compulsive disorders, generalized anxiety disorder and post-traumatic stress disorder. Selective serotonin reuptake inhibitors (SSRIs) are recommended as the first line drug treatment for anxiety disorder.

For benzodiazepines, the lowest effective dose to achieve symptom relief should be used over a limited period. The dose should be gradually tapered off. Long term use should be closely supervised for adverse effects, abuse, tolerance, dependency and withdrawal symptoms. Cognitive behaviour therapy (CBT) may facilitate the tapering of benzodiazepines.

Antidepressants have good anti-anxiety properties and should be the medication of choice in comorbid depression and anxiety. Some selective serotonin reuptake inhibitors (SSRIs) such as paroxetine and venlafaxine have demonstrated efficacy for treatment of co-morbid depression and anxiety.

Relapse is common after discontinuation of medication for most anxiety disorders. Maintenance therapy may be indicated for individuals who frequently relapse.

5.5 Generalised Anxiety Disorder

Generalised anxiety is commonly described as a sensation of persistent worry and apprehension about common day problems and events, associated with chest, abdomen, mental state, general and other symptoms.

Video 5.1 *Assess Anxiety Symptoms*
Video 5.2 *Woman with anxiety*
Table 5.3 *Common Signs and Symptoms of Generalised Anxiety Disorder*

Autonomic Arousal	• Palpitations • Tachycardia • Diaphoresis • Trembling/shaking • Dry mouth
Chest/Abdomen	• Dyspnoea • Choking sensation • Chest pain • Nausea/stomach churning
Mental	• Giddiness/syncope • Derealisation

	• Depersonalisation • Fear of losing control • Fear of dying or â€˜going crazy’
General	• Hot flushes/cold chills • Numbness/tingling • Muscle tension/aches • Restlessness • Feelings of being keyed up/on edge • Lump in throat
Others	• Exaggerated responses to minor symptoms • Easily being startled • Persistent irritability • Poor sleep (initial insomnia, night terrors, unrefreshing sleep) • Poor concentration • Mind goes blank

DSM-5 Diagnostic Criteria

Individuals must have had experienced excessive anxiety and worries for most everyday events for at least 6 months in duration. These excessive worries are difficult to control, must have caused significant impairment in functioning, and must be associated with at least 3 of the following symptoms:

1. Restlessness
2. Easily tired
3. Attentional and concentration difficulties
4. Feeling irritable
5. Muscle tension
6. Sleep difficulties

Hamilton Anxiety Rating Scale (HAM-A) (Hamilton, 1959)

The HAM-A scale is a clinician-rated scale which quantifies the severity of anxiety symptoms with a total score. The HAM-A contains 14 items which assess anxiety, tension, fear, poor concentration, somatic complaints associated with anxiety and mood over the past week. The score of each item ranges from 0 to 4. The HAM-A can be used to assess baseline anxiety to monitor response to therapeutic interventions after a period of time.

Differential Diagnoses

1. Panic disorder, stress-related disorder, phobia, mixed anxiety and depression
2. Arrhythmia, ischaemic heart disease, mitral valve prolapse, congestive heart failure
3. Asthma, COPD
4. Hyperthyroidism, hypoparathyroidism, hypoglycaemia, phaeochromocytoma, anaemia

5. Medications: antihypertensives, antiarrhythmics, bronchodilators, anticholinergics, anticonvulsants, thyroxine, NSAIDS

Management

- **Psychotherapy**
  - **Cognitive Behaviour Therapy (CBT)**
    - Duration: weekly/fortnightly sessions of 1-2 hours completed within 4-6 months; optimal range is 16-21 hours in total; briefer CBT should be about 8-10 hours with integration of structured self-help material
    - Good evidence of efficacy when delivered by an experienced therapist; two-thirds of patients show clinically significant improvement at 6 months follow-up
- **Pharmacotherapy**
  - **Considerations**
    - Patient's age, previous treatment response, risk of deliberate self-harm, cost, patient preference
  - **Medications**
    - SSRIs(first-line)
    - Venlafaxine: for GAD not responding to at least two types of intervention; consider pre-existing hypertension before prescribing
  - **Review**
    - Within 2 weeks of starting treatment
    - Follow-up at 4, 6, and 12 weeks
    - Thereafter at 8-12 week intervals

Comorbidities

- Concurrent panic disorder (25%)
- Concurrent depression (80%)

Prognosis

70% of patients have mild or no impairment and 9% have severe impairment. Poor prognostic factors include severe anxiety symptoms, frequent syncope, derealisation and suicide attempts.

5.6 Panic Disorder and Agoraphobia

Panic disorder is often comorbid with agoraphobia. It is important to note that panic attack refers to the single attack. Recurrent and frequent panic attacks over a period of time will lead to panic disorder.

5.6.1 Panic Disorder

Table 5.4 *Common Signs and Symptoms of Panic Disorder*

Autonomic Arousal	• Palpitations • Tachycardia • Diaphoresis • Trembling/shaking • Dry mouth
Chest/Abdomen	• Dyspnoea • Choking sensation • Chest pain • Nausea/stomach churning
Mental	• Giddiness/syncope • Derealisation • Depersonalisation • Sudden fear of losing control • Sudden fear of dying or 'going crazy'
General	• Hot flushes/cold chills • Numbness/tingling

DSM-5 Diagnostic Criteria

Sudden onset of intense fear that usually peaks within minutes during which the following symptoms might occur:

Physical symptoms:

1. Palpitations
2. Sweating
3. Tremors
4. Difficulties breathing
5. Choking sensations
6. Chest pain or discomfort
7. Abdominal discomfort
8. Dizziness
9. Feeling hot or cold

Mental symptoms:

1. Derealisation
2. Depersonalization
3. Feelings of losing control and going crazy

4. Feelings of death

At least one of the attacks must be followed by at least 1 month of either:

1. Persistent concerns about having additional attacks, or
2. Marked changes in behaviour in relation to the attacks

The ICD-10 criteria also stresses that people suffering from panic disorder should be free from symptoms between attacks.

5.6.2 Agoraphobia

DSM-5 Diagnostic Criteria

There must have been significant anxiety and fear in at least 2 of the following situations, during which, the individual has preoccupation of worries that escape might be difficult or help might not be available when needed:

1. Being alone outside of home
2. Being in a crowd
3. Being in enclosed places
4. Being in open spaces
5. Using public transport modalities

These anxieties and worries must have affected an individual's level of functioning for at least 6 months in duration.

Agoraphobia can be diagnosed either in the presence or absence of panic disorder.

5.6.3 Differential Diagnoses

Differentials for panic disorder include the following: hyperventilation syndrome, hypoparathyroidism, phaeochromocytoma, chronic obstructive pulmonary disease, asthma, mitral valve prolapse, diabetes mellitus, hypoglycaemia, thyrotoxicosis and anaemia.

Panic disorder and hyperventilation syndrome are compared and contrasted in the following table.

Table 5.5 *Panic Disorder and Hyperventilation Syndrome*

	Panic Disorder	Hyperventilation Syndrome (HVS)
ICD-10	Listed under ICD-10 criteria	Not listed under ICD-10 criteria

	Panic Disorder	Hyperventilation Syndrome (HVS)
DSM-5	Codable disorder; specify with or without agoraphobia	Not a codable disorder
Overlap	50-60% of patients with panic disorder or agoraphobia have HVS	25% of HVS patients have symptoms of panic disorder
Aetiology	Biological and psychological causes well defined	• Less well defined • Lactate, CCK, caffeine, psychological stressors also play a role
Clinical Features	• More mental symptoms • Both panic disorder and HVS share autonomic arousal symptoms and symptoms involving chest/abdomen	High thoracic breathing or excessive use of accessory muscles to breathe results in hyperinflated lungs
Metabolic Disturbances	Less well established	• Acute hypocalcaemia (positive Chvostek and Trousseau signs and prolonged QT interval) • Hypokalaemia with generalised weakness • Respiratory alkalosis • Acute hypophosphataemia leading to paraesthesias and generalised weakness
Investigations	• Thyroid function test • Electrocardiogram • 24-hour urine catecholamine (if hypertensive)	D-dimer, V/Q scan to rule out pulmonary embolism if clinically suspected
Management	• Pharmacological agents • Cognitive behaviour therapy (CBT)	Relaxation and deep breathing exercises (reduce arousal during hyperventilation)

5.6.4 Management (MOH Guidelines)

Evidence supports the use of combined cognitive behaviour therapy (CBT) with medication as superior to either therapy alone in the longer term maintenance phase.

Medications: almost all the selective serotonin reuptake inhibitors (SSRIs) (fluoxetine, sertraline, fluvoxamine, escitalopram, paroxetine) have documented efficacy in the treatment of panic disorder. High potency agents like alprazolam and clonazepam are effective in providing rapid relief. With discontinuation of these agents, however, patients should be closely monitored

for recurrence of symptoms, as the rates of relapse are very high, especially for shorter-acting agents. After improvement with medication, antidepressant treatment for panic disorders should be continued for at least 6 months.

Psychotherapy: CBT is the psychotherapy of choice for panic disorder. Possible treatment components for panic disorder with or without agoraphobia include psychoeducation, exposure to symptoms or situations, cognitive restructuring, breathing exercise and monitoring for panic attacks.

Comorbidity: 30% of patients experience major depressive episode and 40% of them meet the criteria for social phobia.

Prognosis: recurrence is common especially when new stressors emerge.

5.7 Social Phobia / Social Anxiety Disorder

Social phobia is characterised by marked fear brought about by social situations (e.g. being the focus of attention or fear of behaving in a manner that will be embarrassing), leading to avoidance of being the focus of attention.

DSM-5 Diagnostic Criteria

Individuals must have had significant anxiety about one or more social situations, for which they worry about being evaluated negatively by others. Consequently, these social situations are avoided. This must have existed for at least 6 months and there must be significant impairment in terms of functioning.

Subtype: performance-only (characterized as social anxiety disorder restricted only to public performances)

Management (MOH Guidelines)

Medications: selective serotonin reuptake inhibitor (SSRI) antidepressants are effective for the treatment of social phobia, and their favourable side-effect profile make them the recommended first-line treatment for social phobia. Paroxetine has been the most extensively studied SSRI for social phobia. After improvement with medication, antidepressant treatment for panic disorders and social phobias should be continued for at least 6 months.

Psychotherapy: cognitive behaviour therapy (CBT) is recommended as effective treatment for social anxiety disorder. Exposure to feared situations is a crucial component. Group approaches are useful and often include elements of social skills training.

5.8 Specific Phobia

DSM-5 Diagnostic Criteria

There must be:

1. Significant anxiety about a particular object or situation
2. Encounters with the object or situation always cause marked anxiety
3. The specified object or situation is avoided
4. The anxieties and worries are excessively out of proportion in consideration of the actual threat posed.

A time duration of at least 6 months is necessary to make a diagnosis of specific phobia and there must be significant impairments in terms of functioning.

Subtypes include:

1. Animal
2. Natural environment
3. Blood injection injury type
4. Situational
5. Others

Management (MOH guidelines)

Beta-blockers are effective for specific and circumscribed anxiety, especially for patients with prominent sympathetic hyperarousal such as palpitations and tremor. Propranolol 10-40 mg taken 45-60 minutes before performance is sufficient for most patients.

5.9 OSCE Grid: Anxiety, Panic Attack and Phobia

You are a resident working at the Accident and Emergency Department. A 26-year-old married man is referred by his GP because of his fear that he is going to lose control, associated with hyperventilation, at the office. He seems to be very stressed.

Task: assess this patient's hallucinations

Table 5.6 *OSCE Grid: Assessing Anxiety, Panic Attack and Phobia*

A) Introduce and assess generalised anxiety		
A1) Introduction	A2) Generalised anxiety	A3) Physical symptoms
I am Dr. XXX, a resident of the Accident and Emergency Department. I understand that your GP has referred you because you are afraid that you are losing control. I can imagine that it is a terrible experience. In the next 7 minutes, I want to find out more about your experiences. Is that all right with you? Can you tell me more about your stress?	Do you tend to worry a lot? How many days in the last month have you felt worried? Do you worry about anything in particular?	What sort of symptoms do you get when you feel worried? Do you feel shaky? Do you sweat a lot? Do you have difficulties with breathing? Do you feel that your heart is beating very fast? Do you have loose stools? Do you feel dizzy or light-headed?
B) Assess panic attacks and agoraphobia		
B1) Panic attacks	B2) Trigger	B3) Agoraphobia
Where did you take the medication? Was anyone else there? Were you likely to be found? Did you lock the door or take any precautions to avoid discovery?	Besides paracetamol did you take any other medication? Did you mix the paracetamol with alcohol? Did you harm yourself by other means (e.g. cutting yourself)?	Did you leave a suicide note? Did you send a message via text or email to say goodbye to your partner or family members?
C) Assess social phobia, specific phobia, comorbidity and past psychiatric history		
C1) Social phobia	C2) Specific phobia	C3) Comorbidity and past history
Do you worry about social situations where you are made the focus of attention? Do you feel very uncomfortable when other people are observing you? Can you tell me more about your concerns?	Are you scared of other situations or objects? Can you tell me more about these situations or objects?	I am sorry to hear that you are affected by these signs and symptoms. How does this condition affect your life? How do you cope? Do you seek help from your GP or psychiatrist? Did they offer you any treatment? Did you find these treatments effective? How is your mood? How is your sleep and appetite?

5.10 Obsessive Compulsive Disorder

Epidemiology

- **Incidence**: 0.55 per 1000 person-years
- **Prevalence**: 1%
    - Lifetime prevalence: 0.8%
- **Gender ratio**: F:M = 1.5:1
- **Mean age of onset**: ~20 years
    - 70% before 25 years
    - 15% after 35 years

Pathophysiology

Lesion in the orbital-frontal cortex and basal ganglia

Obsessions

Obsessions are persistent, intrusive thoughts, recognised to be the patient's own, which cause the patient significant distress. These thoughts can be in the form of doubts, impulses, ruminations and thoughts, and are not simply excessive worries about real-life problems. The patient attempts to ignore or suppress these thoughts.

- **Doubts**: repetitive themes expressing uncertainty about previous actions e.g turning off taps
- **Impulses/Images**: repetitive urges to carry out actions that are usually embarrassing or undesirable e.g. shout obscenities in church or mentally seeing disturbing images such as stabbing oneself
- **Ruminations**: repetitive worrying themes of more complex thought e.g. worrying about the end of the world
- **Thoughts**: repetitive and intrusive words/phrases

Compulsions

Compulsions are repetitive behaviours or mental acts usually associated with an obsession; they have the function of reducing distress caused by obsessions e.g. cleaning, checking and counting. Carrying out the compulsive act should not be pleasurable to the patient.

Table 5.7 *Frequency of Obsessions and Compulsions*

Obsessions	Compulsions
• Fear of contamination (45%) • Doubting (42%) • Fear of illness, germs or bodily fear (36%) • Symmetry (31%) • Sexual or aggressive thoughts (28%)	• Checking (63%) • Washing (50%) • Counting (36%)

DSM-5 Diagnostic Criteria

OCD is now classified under obsessive-compulsive and related disorders under the DSM-5 and is no longer classified under anxiety disorders.

There must be the presence of (a) obsessions and (b) compulsions that have caused much impairment in terms of functioning.

Obsessions must fulfil the following criteria:

1. Repetitive thoughts, urges or images that are experienced recurrently, found to be intrusive, and result in significant anxiety
2. Efforts made to try to suppress these thoughts, urges or images with other thoughts or actions

Compulsions must fulfil the following criteria:

1. Repetitive behaviours or mental acts that the individual feels obliged to perform as a response to the underlying obsessive thoughts
2. These repetitive behaviours or mental acts are being performed in order to reduce the anxiety experienced, or to prevent some dreadful event from happening

It is important to distinguish the 3 subtypes of OCD, namely: with good or fair insight, with poor insight and with absent insight or delusional beliefs.

Yale-Brown Obsessive Compulsive Scale (Y-BOCS) (Goodman et al, 1989)

The Y-BOCS is a clinician-rated semi-structured questionnaire and rates the severity of OCD symptoms. It covers the week prior to the interview. The questionnaire is divided into obsession and compulsion subsets. The questionnaire takes about 15 to 30 minutes to complete. It is often used to monitor changes over the course of treatment.

Differential Diagnoses

1. Recurrent thoughts and worries in a normal person
2. Anankastic or obsessive compulsive personality disorder
3. Generalised anxiety disorder
4. Schizophrenia
5. Delusional disorder
6. Depressive disorder
7. Organic causes (e.g. Paediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal infections - PANDAS)

OCD Spectrum Disorders

1. Body dysmorphic disorder
2. Hoarding disorder
3. Trichotillomania

Management

Inpatient treatment is indicated if patients pose a severe risk to self or others, demonstrate severe self- neglect (e.g. poor hygiene or eating), extreme distress or functional impairment, or respond poorly to treatment requiring compliance monitoring.

- **Pharmacotherapy**
    - **First-line**: 10-12 week trial of selective serotonin reuptake inhibitor (SSRI) at adequate doses (usual dose to treat OCD is 2-3 times higher than dose for treating depression)
    - **Minimum mean daily dosages**:
        - **Fluvoxamine** 150mg
        - **Fluoxetine** 40mg
        - **Sertraline** 150mg
        - **Paroxetine** 40mg
        - **Paroxetine CR** 50mg
    - **Clomipramine**
        - **Tricyclic antidepressant** (derivative of imipramine)
        - **Used when**:
            - There is an adequate trial of at least one SSRI found to be ineffective
            - SSRI is poorly tolerated
            - The patient prefers clomipramine
            - There has been a previous good response to clomipramine
        - **ECG** and **blood pressure** measurement necessary before prescribing
        - **Effective dose range**: 150-300mg/day
- **Psychotherapy**
    - **Behaviour therapy (exposure response-prevention therapy)**: treatment of choice for limiting dysfunction resulting from obsessions and compulsions
    - **Cognitive therapy**: anxiety management, keeping a diary, cognitive restructuring, coping strategies

Prognosis

Poor prognostic factors include:

- Strong conviction about the rationality of obsession
- Prominent depression
- Comorbid tic disorder
- Underlying medical condition
- Inability to resist compulsions
- Childhood onset
- Bizarre compulsions
- Need for hospitalisation
- Presence of overvalued ideas

5.11 OSCE Grid: Obsessive Compulsive Disorder

A GP has referred a 26-year-old woman to you who has severely chapped hands due to repeated hand washing. She is very concerned about contamination.

Task: take a history to establish the diagnosis of OCD

Video 5.3 *Obsessive compulsive disorder*

Table 5.8 *OSCE Grid: Assessing Obsessive Compulsive Disorder*

A) Assess obsessions				
A1) Reasons for handwashing	A2) Obsessions and resistance	A3) Obsessional doubts	A4) Obsessional impulses	A5) Other obsessions
I am Dr. XXX. Your GP has referred your case to me due to excessive handwashing. Can you tell me why you need to wash your hands so many times a day? Can you tell me more about your concerns? Do you come up with these thoughts by yourself?	Do you feel that your thoughts are excessive? Are these ideas reasonable? Do you feel unpleasant about these thoughts? Do you want to stop these thoughts?	Do you ask yourself the same questions over and over again? For example, being uncertain if you have closed the door even though you have checked a few times.	Do you have impulses which you cannot control? E.g. impulse to do inappropriate things Do you have recurrent thoughts of harming yourself or others?	Do you like things to be in a special order? Do you feel upset if someone changes this order?
B) Assess compulsions				
B1) Compulsive washing	B2) Compulsive checking	B3) Compulsive counting	B4) Other rituals	B5) Nature of compulsions
How many times do you need to wash your hands per day? Why do you need to wash your hands so many times a day?	Do you need to check things over and over again? What kinds of items do you check? E.g. windows, doors	Do you count things over and over again? Why do you need to count these things? Is there a particular number you like or do not like?	Do you perform a regular ritual or ceremony to prevent something bad from happening?	How do you find these repetitive behaviours? Are they excessive? Are they pleasurable?

How long does it take for you to take a bath? Why does it take so long? What do you do in the bathroom?	How long does it take for you to finish checking all items before leaving your house?			What would happen if you do not clean your hands? How long have you been washing your hands excessively for?
C) Impact, comorbidities, risk, insight				
C1) Psychosocial impact	C2) Comorbidities	C3) Biological complications	C4) Insight	C5) Expectations
Since you wash your hands so frequently, does it affect your work? Do these behaviours affect your relationship with other people? Are you slow at work? What is your water bill like? Is it very high?	Do you feel stressed or nervous? How is your mood? How are your sleep and appetite? Have you thought of ending your life? Can you tell me more about your character? Are you a perfectionistic person? Do you have abnormal twitching movement in your face? (assessing tics)	Since you wash your hands many times a day, do you have any skin complications? Are you seeing a dermatologist?	What is your view of the current problem? Do you think you have an illness in your mind? If not, what are your views and explanations? Do you think you need help to reduce this handwashing behaviour? Have you read any information on OCD?	What are your expectations on treatment? (assess if these expectations are realistic or achievable) What type of treatment do you prefer? (E.g. medication, psychotherapy, or both)

5.12 Hoarding Disorder

DSM-5 Diagnostic Criteria

Individuals afflicted with this condition have marked difficulties with disposing of items, regardless of their actual value. The difficulty with disposing items has been attributed to a preoccupation with regards to needing to save the items, and to the distress associated with disposing. These behavioural difficulties result in the accumulation of items that clutter personal living spaces. The disorder must have resulted in significant impairments in terms of functioning, and must not have been attributed to another medical disorder such as underlying brain injury, cerebrovascular disease or Prader-Willi syndrome.

Subtypes include:

1. With good or fair insight
2. With poor insight
3. With absent insight or delusional beliefs

5.13 Acute Stress Reaction

Acute stress reaction is a response to a major traumatic event with anxiety symptoms for a short duration.

Table 5.9 *Comparing Acute Stress Reaction and Adjustment Disorder*

	Acute Stress Reaction	Adjustment Disorder
Aetiology	Severe acute stress e.g. rape, assault, natural catastrophe, sudden unemployment, loss of status	Major change in a life situation e.g. migration, entering university, entering national service, newly diagnosed chronic illness
ICD-10 Diagnostic Criteria	Exposure to the stressor is followed by an immediate onset of symptoms within 1 hour which begin to diminish after not more than 48 hours	Duration is within 1 month of exposure to the stressor
DSM-5 Diagnostic Criteria	The following symptoms must be fulfilled within a duration of 3 days to 1 month after experiencing the traumatic event: 1. Exposure to a severe or threatened death, serious injury, or sexual violence 2. Intrusion symptoms: repetitive, intrusive and distressing memories of the traumatic event 3. Negative mood: marked inability to experience positive emotions 4. Dissociative symptoms: feelings of an altered sense of reality or selective dissociative amnesia for the events 5. Avoidance symptoms: marked efforts to avoid distressing memories and external reminders	There must be behavioural or emotional symptoms that have occurred within 3 months from the onset of the stressor. These symptoms must have caused impairments in terms of functioning, and must be considered to be out of proportion in terms of severity and intensity to what is normally expected of the stressors. These symptoms should resolve within 6 months after removal of the stressors. Subtypes include: 1. With depressed mood 2. With anxiety 3. With mixed anxiety and depressed mood 4. With disturbances in conduct 5. With mixed disturbances of emotions and conduct

	Acute Stress Reaction	Adjustment Disorder
	6. Hyperarousal symptoms: sleep difficulties, irritable mood, keyed up, always on edge, issues with concentration, easily getting startled	
Clinical Features	Physical: palpations, chest pain Psychological: withdrawal, inattention, anger, aggression, despair, purposeless overactivity, numbness, derealisation, depersonalisation, amnesia	ICD-10 Criteria: 1. Brief depressive reactio (< 1 month) 2. Prolonged depressive reaction (< 2 years) 3. Mixed anxiety and depressive episode 4. With predominant disturbance of other emotions 5. With predominant disturbance of conduct (adolescent grief reaction) 6. With mixed disturbance of emotions and conduct
Management	Symptomatic relief: short-term anxiolytic agents Crisis intervention, reassurance	Counselling Problem solving therapy Short duration of anxiolytic and antidepressant

5.14 Post-Traumatic Stress Disorder (PTSD)

Video 5.4 *Post-Traumatic Stress Disorder*

Epidemiology

- **Incidence**: about 10% of people experiencing a significant traumatic event go on to develop PTSD
- **Prevalence**:
  - **Lifetime prevalence**: 1 in 10 in general population
  - **Firefighters**: 1 in 5
  - **Teenage survivors of car crashes**: 1 in 3
  - **Female rape victims**: 1 in 2
  - **Prisoners of war**: 2 in 3

- **Gender**: F:M = 2:1
- **Mean age of onset**: most prevalent in young adults

Clinical Features

PTSD is a prolonged response to a traumatic event such as abuse, serious road traffic accident, disaster, violent crime, torture and terrorism. The event should be extraordinary and most people should find it traumatic. For example, one cannot suffer from PTSD after failure in an examination because it is not as traumatic as a serious road traffic accident. The development of PTSD symptoms is usually within 6 months after the traumatic event.

Main symptoms include re-experiencing (e.g. flashbacks in the day time, nightmare at night), avoidance (e.g. place and objects associated with the event), hyperarousal (e.g. increased vigilance, irritability, poor concentration, exaggerated startle response) and emotional numbing (e.g. detachment, lack of interest).

DSM-5 Diagnostic Criteria

Individuals diagnosed with this condition must have had exposure to a severe or threatened death, serious injury or sexual violence. To fulfil the diagnosis, the following symptoms must be present:

1. Repetitive, intrusive, and distressing memories of the traumatic events
2. Marked efforts to avoid distressing memories and external reminders
3. Dissociative amnesia towards important aspects of the traumatic event

These symptoms must have resulted in marked impairments in terms of psychosocial functioning. At times, it is important for clinicians to specify whether individuals experience persistent or recurrent symptoms of either (a) depersonalisation or (b) derealisation.

DSM-5 has also a delayed expression criteria, for which the typical criteria are not fulfilled until at least 6 months after the experience of the traumatic event.

Questionnaire (Horowitz, 1979)

The Impact of Events Scale (IES) is a 15-item questionnaire assessing symptoms of intrusion and avoidance.

It assesses self-reported levels of distress with regard to a specific life event.

Management (MOH guidelines)

When symptoms are mild and have been present less than 4 weeks after the trauma, doctors can offer reassurance and close monitoring. If PTSD symptoms persist after 1 month, the following treatment can be offered.

Pharmacotherapy: SSRIs are generally the most appropriate medication of choice for post-traumatic stress disorder (PTSD), and effective therapy should be continued for 12 months or longer. Paroxetine, sertraline and fluoxetine all have well documented evidence of efficacy.

Psychological treatment: Studies of **trauma-focused cognitive behaviour therapy** (tf-CBT) have shown the most effective results in the treatment of post-traumatic stress disorder (PTSD). Tf- CBT involves exposure therapy to overcome avoidance associated with accident. **Eye movement desensitization and reprogramming** (EMDR) involves recalling the traumatic event when the patient performs a dual attention movement such as bilateral hand tapping. The objective of EMDR is to give new insight to the accident and reduce sensitivity to negative re-experiences.

Prognosis

50% will recover within the first year and 30% will run a chronic course. An initial rapid resolution of symptoms predicts a good prognosis. Bad prognostic factors include completed rape, physical injury, and perception of life threat during the accident or assault.

5.15 OSCE Grid: Post-Traumatic Stress Disorder

A GP has referred a 35-year-old driver to you for assessment. He was almost killed in a road traffic accident 6 months ago and he is suing the other party for compensation.

Task: take a history to establish the diagnosis of PTSD

Table 5.10 *OSCE Grid: Assessing Post-Traumatic Stress Disorder*

A) Explore trauma			
A1) Accident	A2) Immediate outcome of accident	A3) Extent of injury and suffering	A4) Outcome of others involved in accident
I am Dr. XXX. I am sorry to hear that you were involved in a road traffic accident. In the next 7 minutes, I would like to find more about the recent event. Is that all right with you?	How long did you wait for the rescue to come? Do you remember what happened next? Were you brought to the accident and emergency department?	Can you tell me some of the complications after the accident? Did you lose any ability or function? E.g. memory, mobility, sensation	Were the other passengers injured? How many passengers were injured? What happened to them? What is your relationship with them? Do you feel sorry toward them?

Can you tell me what happened on that night? Were you driving the car alone or with someone? Can you describe the severity of the accident? Was it life-threatening?	Were you admitted to hospital? What kind of treatment did they offer? Did you undergo an operation?	Are you still in pain at this moment? How long have you had this pain for?	
B) PTSD symptoms			
B1) Re-experiencing	B2) Avoidance	B3) Hyperarousal	B4) Emotional detachment
How long after the incident did you start getting these symptoms? What does the memory relive itself? How vivid is it? Does the memory come in the form of repetitive distressing images? How often do these mental images come in a day? Do you have nightmares at night? Can you tell me more about them?	Do you try to avoid driving a car? What about sitting in a car? Do you try to avoid the place where the accident occurred?	Are you always on edge? Do you have excessive sweating, fast heart rate and difficulty in breathing? How has your concentration been recently?	Are you able to describe your emotion? Do you feel blunted?
C) Comorbidity, vulnerability, compensation issues			
C1) Comorbidities	C2) Vulnerability	C3) Compensation and legal procedure	C4) Current support system and past treatment
How is your mood? How do you see your future? Do you have thoughts of harming yourself? How do you cope? Do you turn to alcohol or recreational drugs?	Did you encounter any traumatic event when you were young? E.g. abuse, past accident Did you stay with your family when you were young? (explore social isolation) What was your highest education level? (low education is associated with PTSD)	What is the status of the legal procedure? Is your case due to be heard in court soon?	I am very sorry to hear about the road traffic accident and the complications you have gone through. Do you get any support from your partner or family members? Did you see a doctor for the anxiety symptoms? Did the doctor offer treatment to you? How do you find the treatment?

5.16 Depersonalisation and Derealisation

Depersonalisation and derealisation syndrome refers to the phenomenon where a patient complains spontaneously that the quality of mental activity, body and surroundings are changed to appear to be unreal and remote. This syndrome is a subjective and unpleasant experience with insight retained. This syndrome can be a primary phenomenon or secondary to sensory deprivation, temporal lobe epilepsy, phobic anxiety disorders and generalised anxiety disorders.

DSM-5 Diagnostic Criteria

For this diagnosis to be made there must be the presence of persistent or recurrent depersonalisation, derealisation, or both.

- **Depersonalisation**: experiences of unreality, detachment, or of being an outside observer with respect to one's thoughts, feelings, sensations, body, or actions (e.g. unreal or absent self, perceptual alterations, emotional and/or physical numbing, distorted sense of time)
- **Derealisation**: experiences of unreality or detachment with respect to surroundings (e.g. individuals or objects are experienced as unreal, dreamlike, foggy, lifeless, visually distorted)

During the depersonalisation and/or derealisation experiences, reality testing remains intact.

Table 5.11 *Depersonalisation and Derealisation*

Depersonalisation	Derealisation
The patient complains of a feeling of being distant or not really there e.g. A stressful resident complains that his emotions and feelings are detached after night duty; he feels that his emotions and movements belong to someone else	The patient complains of feeling that the environment is unreal e.g. A stressful resident complains of a feeling of unreality after night duty; the ward looks strange as the colour of the wall is less vivid and the staff look soulless; he feels that the time passes very slowly on that morning

Management

- **Short term depersonalisation and derealisation**: reassurance and relaxation training
- **Long term depersonalisation and derealisation**: CBT and/or SSRI may be useful

Common Hypnotics

Common benzodiazepines include:

- **Alprazolam (Xanax) 0.25mg**: mainly indicated for anxiolytic use; half-life is around 11 hours

- **Clonazepam 0.5mg**: mainly indicated for anxiolytic use and REM-movement disorder; half-life is around 25 hours
- **Lorazepam (Ativan) 0.5mg ON**: intramuscular form is used to calm patient with acute agitation; half-life is around 10 hours
- **Diazepam (Valium) 5mg ON**: per-rectum use is indicated for epilepsy; half-life is around 30 hours

Other hypnotics include:

- **Zopiclone**: usual dose ranges between 3.75 to 7.5mg
- **Zolpidem CR**: usual dose ranges between 6.25 to 12.5mg

Circadin (melatonin prolonged release tablets)

- **Dose**: each prolonged release tablet contains 2mg of melatonin
- **Indications**: mono-therapy for the short term treatment of primary insomnia characterized by the poor quality of sleep
- **Main side effect**: drowsiness
- **Uncommon side effects**: irritability, nervousness, insomnia, abnormal dreams, migraine, headache, hyperactivity, hypertension, dry mouth, nausea, abdominal pain, liver function abnormalities
- **Mechanism of action**: activity of melatonin at the MT1, MT2 and MT3 receptors has been believed to contribute to its sleep promoting effects

Key Learning Points

1. Classical conditioning involves placing a neutral signal before a reflex, and focuses on involuntary automatic behaviours, whereas operant conditioning involves applying reinforcement or punishment after a behaviour, and focuses on strengthening or weakening voluntary behaviours.
2. Generalised anxiety disorder is a ‘free-floating’ anxiety about everyday events, whereas panic disorder is an episodic anxiety about specific worries with symptom-free periods between attacks.
3. To differentiate clinically between generalised anxiety disorder and panic disorder, ask about symptoms such as easily being startled, persistent irritability, poor sleep and concentration, restlessness and constantly feeling on edge.
4. Breathing in and out of a paper bag in hyperventilation syndrome is no longer recommended as the resultant hypercapnia can worsen hyperventilation.
5. Beta-blockers are effective for autonomic hyperarousal seen in anxiety disorders.

- [ ] 6. Obsessions are persistent, intrusive thoughts, recognised to be the patient's own, which cause the patient significant distress.
- [ ] 7. Compulsions are repetitive behaviours or mental acts used to relieve distress caused by obsessions; they are not pleasurable to the patient.
- [ ] 8. When assessing a patient with obsessive compulsive disorder (OCD), ask about OCD spectrum disorders including hoarding disorder, body dysmorphic disorder and trichotillomania.
- [ ] 9. Acute stress reaction and post-traumatic stress disorder differ by duration of symptoms: in acute stress reaction symptoms begin within one hour of exposure to the stressor and do not last more than a month, whereas in post-traumatic stress disorder symptoms develop within six months of exposure to the stressor.
- [ ] 10. Depersonalisation is the feeling that oneself is not real, whereas derealisation is the feeling that the environment is not real (but oneself is recognised as being real).

Revision MCQs and MEQs

MCQ

1. A 50-year-old woman meets the diagnostic criteria for panic disorder with agoraphobia. Each time she leaves the house, she experiences high levels of anxiety. When she goes back home, her anxiety level goes down. After some time, she learns that by staying at home, she can avoid any possibility of a panic attack in public. This contributes to the maintenance of her disorder. Which of the following statements about the above phenomenon is incorrect?

a. The reinforcement is contingent upon the behaviour
b. The behaviour is voluntary
c. A negative reinforce positively affects the frequency of response
d. The reinforcement can occur before the behavior
e. An alteration in frequency of behaviour is possible after reinforcement

Answer:
This phenomenon is known as operant conditioning, specifically negative reinforcement. Escape and avoidance learning are two examples of negative reinforcement. The removal of the unpleasant stimulus leads to reinforcement of the behaviour. In operant conditioning, the reinforcer (reduction in anxiety levels) is presented only after the behaviour (going home) is executed, which is why Option D is incorrect.

2. A 25-year-old woman is referred by her lawyer after a road traffic accident which occurred one month ago. Her lawyer wants you to certify that she suffers from post-traumatic stress disorder (PTSD). Which of the following clinical features is not a predisposing factor in PTSD?

a. Childhood trauma
b. Inadequate family support
c. Low premorbid intelligence
d. Lack of control of the accident
e. Recent stressful life events

Answer:
The above options are predisposing factors for PTSD except option D. Other risk factors for PTSD include female gender, previous exposure to trauma including childhood abuse and pre-existing anxiety or major depression.

3. Which of the following statements regarding diagnostic criteria for panic disorder is false?

a. Based on the DSM-IV-TR, panic disorder is classified into panic disorder with agoraphobia and panic disorder without agoraphobia
b. Based on the DSM-IV-TR, agoraphobia is classified into agoraphobia without history of panic disorder and panic disorder with agoraphobia
c. Based on the ICD-10, agoraphobia is classified into agoraphobia without history of panic disorder and panic disorder with agoraphobia
d. Based on the ICD-10, panic disorder is classified into panic disorder with agoraphobia and panic disorder without agoraphobia
e. Based on the ICD-10, severe panic disorder is further defined as having at least 4 panic attacks per week over a 4-week period

Answer:
Only the DSM-IV-TR but not the ICD-10 classifies panic disorder into panic disorder with agoraphobia and panic disorder without agoraphobia.

4. In clinical practice, it is often difficult to differentiate obsession from delusion. Which of the following strongly indicates that a patient suffers from obsessive-compulsive disorder rather than delusional disorder?

a. Better occupational functioning
b. No other psychotic phenomena such as hallucinations
c. The thought content is less bizarre
d. The patient believes that the origin of thoughts is from his or her own mind
e. The patient tries to resist his thoughts

Answer:
Resistance is seen in people with obsessive- compulsive disorder but not delusional disorder.

5. You are a GP and a 30-year-old man with obsessive compulsive disorder (OCD) wants to know more about psychological treatment for his condition. He read the information from the internet and provided a list of psychological interventions. Which of the following therapies is specially indicated for OCD?

a. Biofeedback
b. Exposure and response prevention
c. Eye movement desensitisation and reprocessing
d. Psychoanalysis
e. Relaxation exercise

Answer:
Exposure to dirt and response prevention (e.g. no hand washing for 3 hours after contact of dirt) is a form of psychological treatment for an OCD patient with obsessions about contamination by dirt.

MEQ

You are a resident working at the Accident and Emergency Department (AED). A 45-year-old woman presents with an episodes of hyperventilation, fear of losing control, palpitations and tremor. She works at the bank and is stressed at work. A few days ago, she consulted her GP who gave her 'Piriton' which did not work. She was very concerned and called an ambulance to send her to the nearest hospital for treatment.

1. List five possible diagnoses.

Answer:
Panic disorder
Panic disorder with agoraphobia
Hyperventilation syndrome
Mixed anxiety and depression
Medical causes: hyperthyroidism, hypoglycaemia

2. She requests to have investigations done at the AED. Name three investigations you would order.

Answer:
Electrocardiogram
Thyroid function text
Chest X-ray

3. You have discussed with the consultant psychiatrist. The diagnosis is panic disorder. The patient wants a medication to stop her panic attack in the emergency department. She is afraid of injections. Which oral medication would you order?

Answer:
Oral alprazolam 0.25mg stat or clonazepam 0.5mg stat or lorazepam 1mg stat

4. The patient wants to get regular medication to treat her panic disorder. Which oral medication would you recommend?

Answer:
Regular SSRI (e.g. paroxetine, fluvoxamine)
Anxiolytics for 2 weeks (e.g. alprazolam or clonazepam TDS PRN for 2 weeks)

5. The nurse in the AED has asked the patient to breathe in and out of a paper bag to control her panic attacks. The patient wants to seek your view on this method. What is your advice?

Answer:
Breathing in and out of a paper bag is not a good method because it may cause retention of carbon dioxide and worsen hyperventilation. Deep breathing exercises are a better option.

EMIS

1. Jane presents to the emergency services with the complaint of feeling lethargic, associated with inability to concentrate in her daily work. However she denies having any issues with her sleep or appetite, or every feeling suicidal. She then claimed that she has had a 1-month period during which she felt extremely elated and full of energy. She wishes to get back to how she was one month ago.

a. Acute stress reaction
b. Adjustment reaction
c. Agoraphobia
d. Bipolar disorder
e. Cyclothymia disorder
f. Dysthymic disorder
g. Generalised anxiety disorder
h. Major depressive disorder
i. Post-traumatic disorder

2. Victor met with a car accident 4 months ago and has not driven since. He still experiences flashbacks of the accident occasionally.

a. Acute stress reaction
b. Adjustment reaction
c. Agoraphobia
d. Bipolar disorder
e. Cyclothymia disorder
f. Dysthymic disorder

g. Generalised anxiety disorder
h. Major depressive disorder
i. Post-traumatic disorder

3. Christine has just started a new marketing job. She has been having frequent episodes of feeling on edge, associated with palpitations and dizziness. She worries a lot about everyday events. She claimed that she has seen a doctor previously and was told that she has no medical issues.

a. Acute stress reaction
b. Adjustment reaction
c. Agoraphobia
d. Bipolar disorder
e. Cyclothymia disorder
f. Dysthymic disorder
g. Generalised anxiety disorder
h. Major depressive disorder
i. Post-traumatic disorder

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Chapter 6
Personality & Impulse Control Disorders

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6.1 Introduction

Personality is a dynamic organisation and configuration of trait within a person and this trait determines the characteristic behaviour and thoughts of the person. The personality of a person allows others to predict how this person would react, feel or think in a particular situation.

Personality disorders represent an extreme variant of a normal personality trait.

DSM-5 Diagnostic Criteria

- Impairments in personality (self and interpersonal) functioning
- Presence of pathological personality traits
- The impairments in personality functioning and personality trait expression are not better understood as normative for the individual's developmental stage or socio-cultural environment
- The impairments in personality functioning and the personality trait expression are stable across time and consistent across situations
- Significant impairments in self (identity or self-direction) and interpersonal (empathy or intimacy) functioning

Not attributed to:

- Direct physiological effects of a substance (e.g. a drug of abuse, medication)
- General medical condition (e.g. severe head trauma)

The following personality disorders are included within the DSM-5:

- Cluster A
    - Paranoid personality disorder
    - Schizoid personality disorder
    - Schizotypal personality disorder
- Cluster B
    - Antisocial personality disorder
    - Borderline personality disorder
    - Histrionic personality disorder
    - Narcissistic personality disorder
- Cluster C
    - Avoidant personality disorder
    - Dependent personality disorder
    - Obsessive compulsive personality disorder
- Personality change due to medical condition
- Other specified personality disorder and unspecified personality disorder

6.2 Epidemiology

Prevalence

- **In the general population**: 4-13%
- **In patients with a concurrent psychiatric disorder**: 50%

6.3 Aetiology

Genetics

- **Heritability**: 40-60%
- **Higher concordance** in monozygotic twins over dizygotic twins
- **Cluster A personality disorders** more common in first-degree relatives of patients with schizophrenia

Neurochemistry

- **High levels of testosterone, oestrone, 17-oestradiol**: associated with impulsivity in borderline and antisocial personality disorders
- **Low level of serotonin metabolite 5-hydroxyindoleacetic acid (5-HIAA)**: associated with low mood, self-harm, suicidal behaviour in borderline personality disorder

Environmental factors

- **Low socioeconomic status**
- **Social isolation**

Parenting styles

- **Low parental affection/lack of care**: associated with borderline and dependent personality disorders

Childhood abuse

- **Childhood maltreatment and trauma**: more likely in personality disorder e.g. sexual and emotional abuse may lead to personality disorder

6.4 Differential Diagnoses and Management

Differences between personality disorder and:

- **Schizophrenia**: people with personality disorder may present with psychotic features, but have relatively intact capacity for reality testing, expression of emotion, ability to distinguish between thoughts of their own and others
- **Bipolar disorder**: people with personality disorder may complain of mood swings, but these range from normal mood to irritability, and should not have hypomanic or manic episodes

- **Anxiety disorder**: people with personality disorder use immature defences e.g. projection, denial

Overall Management Strategies

The objective of management is to offer support to people with personality disorder and allow them to express their concerns and emotions in a safe environment. This supportive approach allows the treatment team and patient to develop trust and lead to stabilisation. Specific treatment strategies include crisis intervention, short term hospitalisation, psychotherapy and pharmacotherapy.

Prognosis

- People with personality disorder: higher chance of staying alone, often rejected by family members
- People with antisocial, schizotypal and borderline personality disorders: relatively more impaired at work, relationships, leisure
- People with obsessive compulsive, histrionic and narcissistic personality disorder: relatively less functional impairment
- People with personality disorder and a comorbidity of Axis 1 disorders: great risk of further functional impairment, more chronic course, poor response to treatment

6.5 Cluster A Personality Disorders

Cluster A personality disorders include schizoid personality disorder, schizotypal personality disorder and paranoid personality disorder.

6.5.1 Paranoid Personality Disorder

Epidemiology

- **Prevalence**: 0.5-2.5%
- **Gender**: M>F
- **Heritability**: 0.69

Aetiology

- Paranoid personality disorder more common among first-degree relatives of schizophrenia patients
- **Childhood experiences**: lack of protective care and support in childhood, excessive parental rage, humiliation
- **Temperament**: non-adaptability, tendency toward hyperactivity and intense emotions
- **Defence mechanism**: projection of negative internal feelings (e.g. hostility, rage) onto other people
- **Sensory impairments**: impaired vision, impaired hearing, victims of traumatic brain injury

Clinical Features

Figure 6.1 *Clinical Features of Paranoid Personality Disorder*

People with paranoid personality disorder are suspicious and worry about conspiracy against oneself.

ICD-10 criteria	DSM-5 criteria
Met general criteria for personality disorder and ≥4 symptoms **Behaviour** 1. Tendency to bear grudges (feeling resentful about something) persistently **Cognition** 1. Excessive sensitivity to setbacks and rebuffs 2. Suspiciousness and a pervasive tendency to distort experience by misconstruing neutral or friendly actions of others as hostile or contemptuous 3. Combative and tenacious sense of personal rights out of keeping with the actual situation 4. Recurrent suspicions without justification, regarding sexual fidelity of spouse/sexual partner 5. Persistent self-referential attitude, associated particularly with excessive self-importance	**Salient features of DSM-5** Paranoid personality disorder must not occur exclusively during the course of schizophrenia, mood disorder with psychotic features or other psychotic disorder, or a pervasive developmental disorder **Additional affective symptom** 1. Angry reactions to perceived attacks on his/her character or reputation **Additional behavioural symptom includes** 1. Reluctance to confide in others because of doubts of loyalty or trustworthiness **Additional cognitive symptoms include** 1. Unjustified doubts about loyalty or trustworthiness of friends or associates 2. Hidden demeaning or threatening meanings read into benign remarks or events

ICD-10 criteria	DSM-5 criteria
6. Preoccupation with unsubstantiated 'conspiratorial' explanations of events either immediate to the person or in the world at large	

Differential Diagnoses

Table 6.1 *Differential Diagnoses of Paranoid Personality Disorder*

Axis I Disorders	Axis II Disorders
Delusional disorder: People with delusional disorder have their delusions well encapsulated, systematised but people with paranoid personality disorder do not have well-formed delusions **Schizophrenia:** People with schizophrenia have full blown first rank (positive) and negative symptoms **Severe depressive episode with psychotic features:** Mood congruent delusions such as delusions of guilt or nihilistic delusions **Substance misuse:** E.g. amphetamine, cannabis	**Borderline personality disorder:** Transient paranoia but not as persistent as paranoid personality disorder **Schizoid personality disorder:** More indifferent **Narcissistic personality disorder:** Paranoia may occur as a result to the threat of imagined success **Avoidant personality disorder:** Tend to avoid other people as a result of lack of self-confidence or fear of embarrassment

Management

- **Psychotherapy**
  - **Supportive psychotherapy**
  - **Problem solving therapy**
  - **Cognitive Behaviour Therapy (CBT)**: targets core beliefs such as others being malicious and deceptive; patient needs to realise that it will be all right if he or she reduces suspiciousness; behaviour therapy trains patients to expect hostility and personal attacks in daily life; they are advised to record their ideas in dysfunction through a diary and the psychologist will train them to develop ability to gain control over the sessions
- **Pharmacotherapy**
  - **Antidepressants**: indicated to treat mood symptoms
  - **Antipsychotics**: indicated to treat psychotic symptoms

Course and Prognosis

- Patients can be hypersensitive when they are young with poor peer relationships and eccentricity

- Paranoid ideas may intensify during stress
- Some patients may develop agoraphobia

6.5.2 Schizoid Personality Disorder

Epidemiology

- **Prevalence**: 0.5-1.5%
- **Gender**: M:F = 2:1
- **Heritability**: 0.55

Aetiology

More common among first-degree relatives of schizophrenia patients

Clinical Features

Figure 6.2 *Clinical Features of Schizoid Personality Disorder*

People with schizoid personality disorder show restricted affective expression, impoverished social relationships and avoidance of social activities.

CD-10 criteria	DSM-5 criteria
Met general criteria for personality disorder and ≥4 symptoms **Affect** 1. Emotional coldness, detachment or flattened affectivity.	**Salient features of DSM-5** 1. DSM-5 requires fulfilment of ≥5 symptoms 2. Must not occur exclusively during the course of schizophrenia, mood disorder with psychotic features or other psychotic

CD-10 criteria	DSM-5 criteria
2. Limited capacity to express either warm, tender feelings or anger towards others. 3. Appear to be indifferent to either praise or criticism. **Behaviour** Few, if any, activities provide pleasure Little interest in having sexual experiences with another person (taking into account age) Consistent choice of solitary activities. No desire for, or possession of any close friends or confiding relationships (or only one) **Cognition** 1. Excessive preoccupation with fantasy and introspection 2. Marked insensitivity to prevailing social norms and conventions (which is unintentional)	disorder, or a pervasive developmental disorder **Affective symptoms of DSM-IV-TR** Limited capacity to express either warm, tender feelings or anger towards others **Additional behavioural symptom** Lack of close friends or confidants **Cognitive symptom of DSM-5** Marked insensitivity to prevailing social norms and conventions (which is unintentional)

Differential Diagnoses

- **Other personality disorders**: people with schizotypal personality disorder are more eccentric with disturbed perception and thought form; people with paranoid personality disorder are more easily engaged and resentful
- **Pervasive developmental disorders**: (e.g. autism and Asperger syndrome); people with schizoid personality disorder have better communication and fewer stereotypical behaviours
- **Schizophrenia**: people with schizoid personality disorder do not have full-blown first rank symptoms

Management

Most individuals rarely seek treatment due to low insight into associated problems. They have low capacity for relationships and motivation.

- **Psychotherapy**: supportive psychotherapy is useful to establish therapeutic alliance; as trust increases, the therapist may be able to access patient's fantasies
- **Pharmacotherapy**: low dose antipsychotics and antidepressants have been used with variable outcomes

6.5.3 Schizotypal Personality Disorder

Epidemiology

- **Prevalence**: 3%
- **Gender**: M>F
- **Heritability**: 0.72

Aetiology

- More common in first degree relatives of schizophrenia patients (14% versus 2% in the general population)
- Linked to dopamine dysregulation

Clinical Features

Table 6.2 *Clinical Features of Schizotypal Personality Disorder*

Appearance	Eccentric appearance
Cognitive	• Ideas of reference • Odd beliefs or magical thinking which influences behaviour and inconsistent with subcultural norms • Vague or circumstantial thinking
Emotional	• Inappropriate or constricted affect • Associated with paranoid fears/mistrust rather than negative judgements about self
Perception	Unusual perceptions and experiences
Relationship	• Socially withdrawn • Suspiciousness

DSM-5 Diagnostic Criteria

1. **Psychoticism**
    - **Eccentricity**: odd, unusual, or bizarre behaviour or appearance
    - **Cognitive and perceptual dysregulation**: odd or unusual thought processes; odd sensations
    - **Unusual beliefs** and experiences: unusual experiences of reality
2. **Detachment**
    - **Restricted affectivity**: constricted emotional experience and indifference
    - **Withdrawal**: avoidance of social contacts and activity

3. **Negative affectivity**
    - **Suspiciousness**: expectations of and heightened sensitivity to signs of interpersonal ill-intent or harm; doubts about loyalty and fidelity of others; feelings of persecution

Differential Diagnoses

- **Delusional disorder, schizophrenia** and **severe depressive disorder with psychotic features**
- **Paranoid and schizoid personality disorder**: people with paranoid and schizoid personality disorder do not have perceptual or cognitive disturbances
- **Borderline personality disorder**: people with borderline personality disorder may have brief psychotic experiences which are closely related to affective states
- **Avoidant personality disorder**: people with avoidant personality disorder may seek closeness with other people
- **Pervasive development disorder**: autism and Asperger syndrome

Management

- **Psychotherapy**:
    - **Supportive therapy**
    - **Social skills training**
- **Pharmacotherapy**:
    - **Antipsychotic drugs**: may lead to mild to moderate improvement in psychotic symptoms

Prognosis

- 10-20% of people with schizotypal disorder may develop schizophrenia
- Magical thinking, paranoid ideation and social isolation are associated with an increased risk of schizophrenia

6.6 Cluster B Personality Disorders

Cluster B personality disorders include borderline personality disorder, narcissistic personality disorder, histrionic personality disorder and antisocial personality disorder.

6.6.1 Antisocial Personality Disorder

Epidemiology

- **Prevalence**:
    - **In the community**: 0.6-3.0%

    - **In prison**: 75%
    - More common in **urban settings**
- **Gender**:
    - M:F = 3:1
- **Comorbidity**: people with onset of substance misuse younger than 15 years are more likely to develop ASPD; substance abuse is also a comorbidity of ASPD

Aetiology

- **Developmental causes**
    - **Parental deprivation** and **antisocial behaviour**: e.g. witnessed abuse when patients were young, inconsistent or hars parenting
    - **Frequent moves** or **migration, large family size and poverty**
    - Children who go on to develop antisocial personality disorder are innately **aggressive**, have high reactivity levels and diminished ability to be consoled
- **Psychological causes**
    - **Temperament**: high novelty seeking, low harm avoidance, low reward dependence, uncooperativeness

Clinical Features

Figure 6.3 *Clinical Features of Antisocial Personality Disorder*

Impulsivity, irresponsibility, disregard for social rules, criminality and lack of remorse are observed in people with dissocial personality disorder. For example, a man with dissocial personality disorder derives his pleasure from the suffering of others.

ICD-10 criteria	DSM-5 criteria
Affect 1. Very low tolerance to frustration and a low threshold for discharge of aggression, including violence 2. Incapacity to experience guilt, or to profit from adverse experience, particularly punishment **Behaviour** 1. Incapacity to maintain enduring relationships, though no difficulty in establishing them 2. Marked proneness to blame others, or to offer plausible rationalizations for the behaviour that has brought the individual into conflict with society **Cognition** 1. Callous unconcern for feelings of others 2. Gross and persistent attitude of irresponsibility and disregard for social norms, rules and obligations	**Antagonism** 1. **Manipulativeness**: frequent use of subterfuge to influence or control others 2. **Deceitfulness**: dishonesty and fraudulence or misrepresentation of self 3. **Callousness**: lack of concern for feelings or problems of others; lack of guilt or remorse 4. **Hostility**: persistent or frequent angry feelings; anger or irritability in response to minor insults **Disinhibition** 1. **Irresponsibility**: failure to honour obligations or commitments and lack of follow through on agreements and promises 2. **Impulsivity**: acting on the spur of the moment in response to immediate stimuli; acting on a momentary basis without a plan or consideration of outcomes; difficulty establishing and following plans 3. **Risk taking**: engagement in dangerous, risky, and potentially self-damaging activities, unnecessarily and without regard for consequences; boredom proneness and thoughtless initiation of activities to counter boredom; lack of concern for one's limitations and denial of the reality of personal danger

Differential Diagnoses

1. **Temporary antisocial behaviour**: focal behaviour (e.g. vandalism or riot), not exploitive and with conscience preserved
2. **Mania/hypomania**: antisocial behaviour (e.g. reckless driving or violence) as a result of impaired judgement and irritability

Management (NICE Guidelines Recommendations)

- **Psychotherapy**:
  - **Cognitive and behavioural interventions**: address impulsivity, interpersonal difficulties and antisocial behaviour; for people with forensic history, the CBT should focus on reducing offending and other antisocial behaviour
  - Important to **assess risk** regularly and adjust the duration and intensity of the programme accordingly
- **Pharmacotherapy**:
  - Should not be routinely used for the treatment of dissocial personality disorder

- May be considered in the treatment of comorbid disorders such as depression and anxiety (e.g. SSRIs) and aggression (e.g. low dose antipsychotics or mood stabilisers)

Course and Prognosis

Positive prognostic factors include:
- Showing more concern and guilt with regard to antisocial behaviour
- Ability to form therapeutic alliance
- Positive occupational and relationship record

Other Definitions
- **Psychopathy**: a severe form of antisocial personality disorder with extremely low levels of empathy and remorse and high chance of recidivism
- **Sociopathy** is not a recognized term in forensic psychiatry.

6.6.2 Borderline Personality Disorder

Video 6.1 *Borderline Personality Disorder*

Epidemiology
- **Prevalence**: 1-2%
- **Gender**: M:F = 1:2
- **Age of onset**: adolescence or early adulthood
- **Suicide rate**: 9%
- **Comorbidity**: depression, PTSD, substance misuse, bulimia nervosa

Aetiology

- **Early development**
  - Early separation/loss; early insecure attachment results in fear of abandonment
  - Family environment: high conflict, unpredictability, dysfunction, divorce
  - Parental factors: alcohol/drug misuse, forensic history, mother not emotionally available
  - Emotionally vulnerable temperament interacts with an invalidating environment
- **Past trauma and abuse**
  - Childhood trauma
  - Physical/sexual abuse, neglect
- **Attachment**
  - All infants possess a basic instinct towards attachment; if attachment is not formed, the child's ability to develop a stable and realistic concept of self is impaired; the child will have limited mentalisation (capacity) to depict feelings and thoughts of self and other people
- **Defence mechanisms**

    - **Splitting**: adopting a polarised or extreme view of the world where people are either all good or bad and failing to see that each person has good and bad aspects; e.g. a patient with borderline personality disorder tries to classify the doctors of the ward into two groups, good doctors and bad doctors, failing to see the strengths and weaknesses of each doctor
    - **Projective identification**: the patient unconsciously projects a figure onto other people; e.g. a man does not like his father and projects a bad father figure onto the male doctor (projection) and accuses the doctor to be a non-caring individual; due to counter-transference, the male doctor tries to avoid the patient as if he does not care about the patient (identification)
- **Biological factors**
    - Family studies show the risk of relatives of borderline personality disorder to develop such disorder is 5 times higher as compared to the general population
    - More common in first degree relatives of patients with depression
    - Abnormal dexamethasone suppression test result, decreased REM latency, decreased thyrotropin response, abnormal sensitivity to amphetamine in BPD patients
    - Specific marker for impulsivity: decreased CSF 5HIAA (metabolite of serotonin)
    - Chronic trauma: leads to decreased hippocampal volume, decreased hemispheric integration and hyperactive HPA axis
    - Increased bilateral activity in amygdala with emotionally aversive stimuli
    - Orbitofrontal cortex abnormalities: lead to reduction in cortical modulation of amygdala, impulsivity, affect dysregulation, chronic feeling of emptiness and decreased mentalisation

Clinical Features

The ICD-10 classifies emotionally unstable personality disorder into **impulsive** and **borderline** type, whereas the DSM-5 does not have the concept of emotionally unstable personality disorder and only has **borderline personality disorder**.

Figure 6.4 *Clinical Features of Borderline Personality Disorder*

People with borderline personality disorder present with recurrent acts of self-harm usually in the form of self-laceration. They often report chronic feelings of emptiness and unstable emotion.

ICD-10 criteria	DSM-5 criteria
Met general criteria for personality disorder, ≥3 symptoms of impulsive type (one of which must be *) **Impulsive type (ICD-10)** **Affect** 1. Liability to outbursts of anger or violence, with inability to control the resulting behavioural explosions (Do you have a problem with your anger control?) 2. Unstable and capricious mood. (How often does your mood change?) 3. **Behaviour** 1. Marked tendency to act unexpectedly and without consideration of consequences 2. * Marked tendency of quarrelsome behaviour and conflicts with others, especially when impulsive acts are thwarted or criticized (How often do you get into quarrels or fights?) 3. Difficulty in maintaining any course of action that offers no immediate reward **Borderline type (ICD-10)** The borderline type requires the person to meet the diagnostic criteria of impulsive type and an additional 2 symptoms in the following: **Affect** 1. Chronic feelings of emptiness (How often do you feel empty inside?). **Behaviour** 1. Liability to become involved in intense and unstable relationships, often leading to emotional crises (How have your relationship been?) 2. Excessive efforts to avoid abandonment (How often do you feel abandoned?) 3. Recurrent threats or acts of self-harm (How often do you harm yourself?)	1. **Negative affectivity** ○ **Emotional lability**: unstable emotional experiences and frequent mood changes ○ **Anxiousness**: intense feelings of nervousness or panic in reaction to interpersonal stresses and fears of losing control ○ **Separation insecurity**: fears of rejection by or separation from significant others associated with fears of excessive dependency and complete loss of autonomy ○ **Depression**: frequent feelings of being down, feeling miserable or hopelessness 2. **Disinhibition** ○ **Impulsivity**: acting on the spur of the moment in response to immediate stimuli; acting on a momentary basis without a plan or consideration of outcomes; difficulty establishing or following plans; a sense of urgency and self-harming behaviour under emotional distress ○ **Risk taking**: Engagement in dangerous, risky, and potentially self-damaging activities 3. **Antagonism** ○ **Hostility**: Persistent or frequent angry feelings; anger or irritability **Additional cognitive symptoms** includes transient, stress-related paranoid ideation or severe dissociative symptoms. (Have you ever seen things or heard voices that are not really there?)

ICD-10 criteria	DSM-5 criteria
Cognition 1. Disturbances in and uncertainty about self-image, aims and internal preferences (including sexual) (Do you feel that your views about yourself often change?)	

Differential Diagnoses

1. **Dependent personality disorder**: people with dependent personality disorder are less chaotic in affect regulation and less impulsive
2. **Antisocial personality disorder**: people with antisocial personality disorder have history of forensic problems and do not care about the safety of other people
3. **Histrionic personality disorder**: people with histrionic personality disorder want to be the centre of attention but usually demonstrate less self-harm, emptiness and affective instability
4. **Narcissistic personality disorder**: people with narcissistic personality disorder see rejection as humiliating, while people with borderline personality disorder see rejection as abandonment; people with borderline personality disorder feel that they are entitled to special treatment because they suffered in the past, while people with narcissistic personality disorder feel that they are entitled to special treatment because of their special status
5. **Post-traumatic stress disorder (PTSD)**: people with PTSD usually present with flashbacks, hypervigilance and nightmares after a recent traumatic event
6. **Depressive disorder**: people with borderline personality disorder may present with depression but people with depressive disorder do not demonstrate primitive defence mechanisms such as splitting or projective identification
7. **Schizophrenia**: both borderline personality disorder and schizophrenia may present with psychotic symptoms; people with borderline personality disorder present with transient psychosis, lack of first rank symptoms, visual illusions and lack of negative symptoms
8. **Bipolar disorder**: both borderline personality disorder and bipolar disorder may present with mood swings; during these mood swings people with borderline personality disorder experience fluctuations in mood from normal to irritability without hypomanic or manic features
9. **Identity confusion in normal adolescence development**: identity confusion is part of a normal adolescence development

Management (NICE Guidelines)

Psychotherapy:

Long term outpatient psychotherapy is recommended because patients can handle challenges in daily life with the support from psychotherapists. Dialectical Behaviour Therapy (DBT) and mentalisation based therapy are recommended treatment for people with borderline personality

disorder. The NICE guidelines (UK) recommend that therapists should use an explicit and integrated theoretical approach and share this with their clients. The guidelines also recommend that the therapists should set therapy at twice per week and should not offer brief psychological interventions (less than 3 months' duration).

- **Dialectical behaviour therapy (DBT)**
    - **Aims**:
        - To reduce life threatening behaviour such as self-harm
        - To reduce behaviour which interfere therapy and quality of life
        - To enhance emotion regulation
    - **Techniques**: 4 modes of treatment requiring at least one year of commitment
        - Weekly individual psychotherapy
        - Group skills training with skill acquisition focusing on mindfulness, interpersonal effectiveness, emotional regulation and distress tolerance
        - Skill coaching phone calls
        - Therapist-consult team meetings
- **Mentalisation based therapy (Anthony Bateman and Peter Fonagy)**
    - **Aims**:
        - To help people with borderline personality disorder develop the capacity to know that one has an agentive mind and to recognise the importance of mental states in others as there was a failure in parental responsiveness during their childhood; hence, people with borderline personality disorder are unable to mentalise and form a stable and coherent self
    - **Indications:**
        - Borderline personality disorder
        - Can be applied as individual therapy (in Singapore and western countries) or group therapy (in western countries)
    - **Techniques**:
        - Appropriate affect expression to deal with impulse control, reduction of self harm, passive aggression, idealisation, hate and love
        - Establishment of a stable representational system
        - Formation of a coherent sense of self
        - Develop capacity to form secure relationships

Pharmacotherapy:

For mood lability, rejection sensitivity and anger, one can prescribe a SSRI (e.g. fluoxetine) or switch to another SSRI if the first SSRI is not effective. If the second SSRI is not effective, one can add a low dose antipsychotic (e.g. quetiapine) for anger or anxiolytic (e.g. clonazepam) for anxiety. Mood stabilisers such as sodium valproate and carbamazapine can be added if the above medications are not effective. It is recommended not to use psychotropic medications that have narrow therapeutic indices such as lithium or TCA which are toxic in overdose.

Prognosis

Poor prognosis is associated with early childhood sexual abuse, early first psychiatric contact, chronicity of symptoms, high affective instability, aggression and substance use disorder.

6.6.3 Histrionic Personality Disorder

Epidemiology

- **Prevalence**: 2-3%
- **Gender**: M=F
- **Comorbidity**: somatisation disorder, alcohol misuse

Aetiology

- **Psychological causes**
  - Extreme variant of temperamental disposition
  - Emotionality (intensity and hypersensitivity), extraversion and reward dependence
  - Tendency towards overly generalized cognitive processing
- **Developmental causes**
  - Significant separation in the first 4 years of life
  - Association with authoritarian or seductive paternal attitudes during childhood
  - Favouritism towards male gender in a family (if patient is a woman) causing power imbalance
  - Childhood: traumatic, deprivation, chronic physical illness
  - Absence of meaningful relationships
  - May have families high in control, intellectual orientation, low in cohesion
- **Defence mechanisms**
  - Dissociation
  - Denial

Clinical Features

Figure 6.5 *Clinical Features of Histrionic Personality Disorder*

People with histrionic personality disorder feel comfortable in situations where they are the centre of attention

ICD-10 criteria	DSM-5 criteria
Affect 1. Self-dramatization, theatricality or exaggerated expression of emotions 2. Shallow and labile affectivity **Behaviour** 1. Suggestibility (he/she is easily influenced by others or circumstances) 2. Continual seeking for excitement and activities in which the individual is the centre of attention 3. Inappropriate seductiveness in appearance or behavior **Cognition** 1. Overconcern with physical attractiveness	**Salient features of DSM-5**: DSM-5 requires a fulfilment of ⩾5 symptoms **Additional affective symptom** 1. Discomfort in situation in which he/she is not the centre of attention **Additional behaviour symptoms** 1. Consistent use of physical appearance to draw attention to self 2. Excessively impressionistic style of speech **Additional cognitive symptom** 1. Consideration of relationships to be more intimate than they actually are

Differential Diagnoses

Table 6.3 *Differential Diagnoses of Histrionic Personality Disorder*

Axis I Disorders	Axis II Disorders
Hypomania/mania: characterised by episodic mood disturbances with grandiosity and elated mood	**Borderline personality disorder**: more self-harm, chaotic relations and identity diffusion

Axis I Disorders	Axis II Disorders
Somatisation/conversion disorder: people with histrionic personality disorder are more dramatic and attention seeking **Substance misuse**	**Dependent personality disorder**: more impairment in making important decisions **Narcissistic personality disorder**: people with narcissistic personality disorder need attention by being praised and they are very sensitive to humiliation when they are the centre of attention

Management

- **Psychotherapy**
  - **Dynamic psychotherapy**: patients may see power and strength as a male attribute based on their childhood experience and feel inferior about one own gender and need to seek attention; dynamic therapy may be useful to help patients analyse their deep seated views and understand how childhood experiences affect perception and personality development; therapists should help the patient to build self-esteem
  - **Cognitive Behaviour Therapy**: challenge cognitive distortions, reduce emotional reasoning
- **Pharmacotherapy**: SSRIs target depressive symptoms

Course and Prognosis

- In general, people with histrionic personality disorder have less functional impairments compared to other personality disorder
- Some people with histrionic personality disorder improve with age as a result of maturity
- Sensation seeking may lead to substance misuse

6.6.4 Narcissistic Personality Disorder

Epidemiology

- **Prevalence**: 0.4-0.8%
- **Gender**: M>F
- **Comorbidity**: hypomania, depression/dysthymia, substance misuse, anorexia nervosa

Aetiology

- **Psychological causes**
  - Parental: deprivation in some cases, pampering and spoiling in others
  - Most theories state that narcissism develops as a defence against awareness of low self-esteem
  - People with narcissistic personality disorder have inflated self-esteem and seek information which confirms this illusory bias
  - Temperament: high novelty seeking and reward dependence

Clinical Features

Figure 6.6 *Clinical Features of Narcissistic Personality Disorder*

Narcissism refers to the trait of excessive self-love based on self-image. The term is derived from the Greek myth of Narcissus who fell in love with his own reflection in a pool of water.

ICD-10 criteria	DSM-5 criteria
Narcissistic personality disorder is not listed in the ICD-10	1. **Grandiosity**: Feelings of entitlement, either overt or covert; self- centeredness; firmly holding to the belief that one is better than others; condescending toward others 2. **Attention seeking**: Excessive attempts to attract and be the focus of the attention of others; admiration seeking DSM-5 requires a fulfilment of ⩾5 symptoms: **Affect** 1. Lacks empathy 2. Often envious of others or believes that others are envious of him/her 3. Shows arrogant, haughty behaviours or attitudes **Behaviour** 1. Tendency to be interpersonally exploitative **Cognition** 1. Grandiose sense of self-importance 2. Preoccupation with fantasies of unlimited success, power, brilliance or beauty 3. Belief that he/she is ‘special’ or ‘unique’ 4. Excessive need for admiration

ICD-10 criteria	DSM-5 criteria
	5. Sense of entitlement

Differential Diagnoses

1. Other cluster B personality disorders e.g. histrionic personality disorder
2. Adjustment disorder with depressive features or depressive disorder with narcissistic defences
3. Hypomanic episodes
4. Substance misuse

Management

People with narcissistic personality disorder are often ambivalent about treatment and tend to feel that it is others who need to change. They may come to seek help when depressed after narcissistic injury.

- **Psychotherapy**: dynamic psychotherapy, cognitive behaviour therapy

Course and Prognosis

- Depression is perpetuated by continuing frustration and disappointment and reduced boosters for narcissism
- May encounter difficulty with aging as a result of high value placed on self-image and unrealistic strength
- May not be satisfied with life achievements

6.7 Cluster C Personality Disorders

Cluster C personality disorders include dependent personality disorder, obsessive compulsive personality disorder and avoidant personality disorder.

6.7.1 Avoidant Personality Disorder

Epidemiology

- **Prevalence**: 0.8-5.0% in the community
- **Gender**: M=F
- **Heritability**: 0.28 (estimated)
- **Comorbidity**: social phobia

Aetiology

- **Temperament**
  - **Neuroticism** and **introversion** are vulnerabilities which seem to be shared with social phobia.
- **Parenting**
  - Inconsistent, absent, less demonstration of parental love
  - Discouraging, rarely show pride in children
  - Higher rates of rejection and isolation
  - Maladaptive avoidance develops as a defence against shame, embarrassment, failure

Clinical Features

Figure 6.7 *Clinical Features of Avoidant Personality Disorder*

People with anxious (avoidant) personality disorder exhibit persistent, pervasive tension and apprehension, characterised by avoidance of interpersonal contact due to fear of criticism or rejection.

ICD-10 criteria	DSM-5 criteria
Affect 1. Persistent, pervasive tension and apprehension **Behaviour** 1. Unwilling to be involved with people unless certain of being liked 2. Restricted lifestyle due to need for physical security 3. Avoidance of social or occupational activities involving significant interpersonal	**Additional behavioural symptoms** 1. Showing restraint in intimate relationships because of the fear of being ashamed, ridiculed, or rejected due to severe low self-worth 2. Inhibition in new interpersonal situations because of feelings of inadequacy

ICD-10 criteria	DSM-5 criteria
contact because of fear of criticism, disapproval or rejection **Cognition** 1. Belief that one is socially inept, personally unappealing or inferior to others 2. Excessive preoccupation with being criticised or rejected in social situations	

Differential Diagnoses

Table 6.4 *Differential Diagnoses of Avoidant Personality Disorder*

Axis I Disorders	Axis II Disorders
Social phobia: people with social phobia show more impairment and distress in social situations; their self- esteem is lower compared to people with avoidant personality disorder	**Dependent personality disorder**: people with avoidant personality disorder avoid contact while people with dependent personality disorder focus on being cared for
Agoraphobia: people with agoraphobia may have more frequent panic attacks	**Schizoid personality disorder**: isolated but emotionally cold
Depressive disorder: negative self-evaluation is related to low mood	**Paranoid personality disorder**: people with paranoid personality disorder are isolated due to lack of trust in other people

Management

- **Cognitive Behaviour Therapy**: may be more useful and effective compared to brief dynamic psychotherapy to overcome avoidance
- **Assertiveness** and **social skill training**: useful to help patients make and refuse requests
- **Distress tolerance skill**: important to help patients to handle anticipatory anxiety in social situations

Prognosis

- People with avoidant personality disorder may do well in familiar environments with known people
- Shyness tends to decrease as people with avoidant personality disorder get older
- People with avoidant personality disorder and comorbid depressive disorder may have high drop-out rates in treatment

6.7.2 Dependent Personality Disorder

Epidemiology

- **Prevalence**: 1.0-1.7% in the community
- **Heritability**: 0.57

Aetiology

- Patients may have indulgent parents who prohibit independent activity
- Twin studies suggest a biological component to submissiveness
- Insecure attachment

Clinical Features

Figure 6.8 *Clinical Features of Dependent Personality Disorder*

People with dependent personality disorder may have self-effacing diffidence, eagerness to please and importuning. They may adopt a helpless or ingratiating posture, escalating demands for medication, distress on separation, and difficulty in termination of psychotherapy.

Background history may reveal childhood separation anxiety, periods of separation from parents or presence of chronic illness.

ICD-10 criteria	DSM-5 criteria
Affect 1. Uncomfortable or helpless when alone due to exaggerated fears of inability to self-care **Behaviour** 1. Encourages or allows others to make most of one's important life decisions	1. Additional criterion of disorder beginning in adulthood 2. Requires a fulfilment of ≥5 symptoms **Additional behavioural symptoms**

ICD-10 criteria	DSM-5 criteria
2. Subordination of one's own needs to those of others on whom one is dependent, undue compliance with their wishes 3. Unwilling to make even reasonable demands on the people one depends on **Cognition** 1. Preoccupation with fears of being left to care for oneself 2. Limited capacity to take everyday decisions without an excessive amount of advice and reassurance from others	1. Difficulty initiating projects or doing things on his/her own 2. Goes to excessive lengths to obtain nurturance and support from others 3. Urgently seeks another relationship for care and support when a close relationship ends

Differential Diagnoses

Table 6.5 *Differential Diagnoses of Dependent Personality Disorder*

Axis I Disorders	Axis II Disorders
Social phobia **Agoraphobia** **Depressive disorder**	**Borderline personality disorder**: both borderline personality disorder and dependent personality disorder share fear of rejection and abandonment; people with borderline personality disorder show more anger, emptiness and dramatic responses compared to people with dependent personality disorder who are more submissive and clinging; people with dependent personality disorder want to be controlled but people with borderline personality disorder react strongly to being controlled; people with borderline personality disorder show more rage and chaotic relationship **Avoidant personality disorder**: people with avoidant personality disorder show low self-esteem, need for reassurance, high sensitivity for rejection; people with avoidant personality disorder react by avoiding while people with dependent personality disorder seek out relationships **Histrionic personality disorder**: people with histrionic personality disorder are more seductive, flamboyant and manipulative to get attention

Management

- **Cognitive Behaviour Therapy** and **social skills training**
- Therapy targeted at increasing self-esteem, self-confidence, sense of efficacy, assertiveness, exploring fear of autonomy
- **Family** or **couple therapy**

6.7.3 Obsessive Compulsive Personality Disorder (Anankastic Personality Disorder)

Epidemiology

- **Prevalence**: 1.7-2.2% in the community
- **Demographic**: eldest children, Caucasians, high socioeconomic status
- **Gender**: M>F
- **Heritability**: 0.78
- **Comorbidities**: depressive disorder, anxiety disorders, somatoform disorders, hypochondriasis, obsessive compulsive disorder (30% of people with OCPD have OCD but the reverse is not true)

Aetiology

- **Early development**: excessive parental control and criticism causes insecurity which is then defended against by perfectionism, orderliness and control
- More common in first degree relatives of patients of obsessive compulsive personality disorder

Clinical Features

Figure 6.9 *Clinical Features of Obsessive Compulsive Personality Disorder*

People with anankastic personality disorder are rigid with routine. For example, they may park in the same parking lot every day and become distressed if the parking lot is taken by others. The person may insist on performing other tasks in a certain way such that he/she will not delegate work to other people.

People with anankastic personality disorder may have excessive adherence to rules.

ICD-10 criteria	DSM-5 criteria
Affect 1. Feelings of excessive doubt and caution **Behaviour** 1. Perfectionism that interferes with task completion 2. Excessive conscientiousness and scrupulousness (extremely careful) 3. Excessive pedantry (adherence to rules and forms) and adherence to social conventions **Cognition** 1. Rigidity and stubbornness 2. Undue preoccupation with productivity to the exclusion of pleasure and interpersonal relationships	**Compulsivity** Rigid perfectionism on everything being flawless, perfect, without errors or faults, including one's own and others' performance; sacrificing of timeliness to ensure correctness in every detail; believing that there is only one right way to do things; difficulty changing ideas; preoccupation with details, organisation, and order **Negative affectivity** Perseveration at tasks long after the behaviour has ceased to be functional or effective; continuance of the same behaviour despite repeated failures

Differential Diagnoses

Table 6.6 *Differential Diagnoses of Obsessive Compulsive Personality Disorder*

Axis I Disorders	Axis II Disorders
Obsessive compulsive disorder (OCD): people with OCD present with more clearly defined obsessions and compulsions, while people with OCPD are more egosyntonic (in line with ego) with their behaviour and hence, they are less anxious **Generalised anxiety disorder (GAD)**: people with GAD present with excessive worry	**Schizoid personality disorder**: People with OCPD may present with constricted affect because they want to maintain control, while people with schizoid personality appear to be emotionally cold because there is a fundamental lack of capacity

Course

Adolescents with strong OCPD traits can grow out of the diagnosis.

Management

- **Psychodynamic psychotherapy**: involves an active therapist who challenges isolation of affect, helps the patient to increase emotional awareness and modifies harsh superego; patient needs to develop the capacity to accept that he or she is a human being and cannot be perfectionistic in all areas
- **Cognitive Behaviour Therapy**: useful to enhance tolerance of imperfection and errors; patients should label the tasks as completed once the result is good enough

6.8 Impulse Control Disorders

These disorders are characterised by an impulse (e.g. gambling or fire-setting) which the person finds difficult to resist. Prior to the act, there is a build-up of tension and the person seeks pleasure, gratification, or relief at the time of performing the act.

Classification

Disruptive, impulse control and conduct disorder now includes:

1. **Pyromania**
2. **Kleptomania**
3. **Other specified and unspecified disruptive, impulse control and conduct disorders**

Table 6.7 *Impulse Control Disorders*

Disorder	ICD-10 Diagnostic Criteria	DSM-5 Diagnostic Criteria
Pyromania (pathological fire-setting)	1. There are two or more acts of fire-setting without apparent motive 2. The individual describes an intense urge to 3. set fire to objects, with a feeling of tension 4. before the act and subsequent relief 5. The individual is preoccupied with thoughts, mental images and related matters such as an abnormal interest in fire-engines, fire stations and the fire service	Similar to the ICD-10 diagnostic criteria **Emphasis**: fire-setting is not done for monetary gain, expression of political views or anger, riot, to conceal criminal activity, false insurance claim for personal gain, under the influence of delusion or hallucination, or as a result of impaired judgment (e.g. in dementia or intellectual disability) **Exclusion**: fire-setting is not in the context of conduct disorder, manic episode, or antisocial personality disorder
Kleptomania (pathological stealing)	1. There are 2 or more thefts in which the individual steals without any apparent motive of	Similar to the ICD-10 diagnostic criteria

Disorder	ICD-10 Diagnostic Criteria	DSM-5 Diagnostic Criteria
	personal gain or gain for another person 2. The individual describes an intense urge to steal, with a feeling of tension before the act and subsequent relief	**Emphasis**: stealing is not committed to express anger and the theft is not a response to a delusion or a hallucination **Exclusion**: theft is not in the context of conduct disorder, manic episode or antisocial personality disorder

Key Learning Points

1. A personality disorder must cause significant distress or impairments in self and interpersonal functioning, unlike a personality trait which can be non-pathological.
2. Patients with personality disorders lack insight and have either ego-syntonic symptoms or consider their symptoms to be immutable.
3. Cluster A personality disorders are those in which odd or eccentric behaviour is considered to be central, and include paranoid, schizoid and schizotypal personality disorders.
4. Cluster B personality disorders are those in which dramatic or erratic responses are common, and include antisocial, borderline, histrionic and narcissistic personality disorders.
5. Cluster C personality disorders are those in which anxious and fearful behaviour are central, and include avoidant, dependent, and obsessive compulsive personality disorder.
6. A person must be at least 18 years old for a diagnosis of personality disorder to be made; younger people are considered to have evolving personality traits instead.
7. Pharmacological treatment has limited use in most personality disorders except in treating comorbid depressive/anxious symptoms; the mainstay of treatment is psychotherapy.
8. Pharmacotherapy has been shown to be more useful in borderline personality disorder than in any other personality disorder.
9. Personality disorders not otherwise specified include passive-aggressive personality disorder, depressive personality disorder, sadomasochistic personality disorder and sadistic personality disorder.
10. Other specified impulse control disorders include pathological gambling, trichotillomania, and intermittent explosive disorder.

Revision MCQs and MEQs

MCQ

1. Which of the following statements regarding diagnostic criteria for multiple personality disorder is false?

a. Based on the ICD-10 criteria, two or more distinct personalities exist within the individual
b. Based on the ICD-10 criteria, two or more distinct personalities are evident at a time
c. Based on the ICD-10 criteria, each personality has its own memories, preferences and behaviour patterns
d. Based on the ICD-10 criteria, the inability to recall important personal information is extensive
e. Multiple personality disorder is known as dissociative identity disorder in the DSM-IV-TR

Answer:
Based on the ICD-10 criteria, only one personality is evident at a time.

2. A 25-year-old man persistently believes that he is socially inept and fears negative evaluation by others. He seems to be timid and insecure. Which of the following personality disorders best describes this person based on ICD-10 or DSM-IV-TR diagnostic criteria?

a. Anxious (avoidant) personality disorder
b. Anankastic personality disorder
c. Dissocial personality disorder
d. Emotionally unstable personality disorder: borderline type
e. Paranoid personality disorder

Answer:
Anxious (avoidant) personality disorder is characterised by persistent apprehension and tension, unwillingness to be involved with people unless certain of being liked, restricted lifestyle as a result of the need for physical security, avoidance of social or occupational activities, feeling socially inept and excessive preoccupation with facing criticism.

3. Which of the following symptoms does not belong to borderline personality disorder?

a. Chronic feelings of emptiness
b. Disturbances in and uncertainty about self- image
c. Excessive efforts to avoid abandonment
d. Impulsivity that is antisocial
e. Liability to become involved in intense and unstable relationships

Answer:
Option D is not part of the diagnostic criteria of borderline personality disorder.

4. A 40-year-old man wants to transfer from another hospital to your hospital. He is admitted to the psychiatric ward because of low mood. He complains to the ward manager that the inpatient service is not up to standard. After discharge, he writes 15 letters to the CEO about the delay in psychologist appointment. Which of the following personality disorders is the most likely diagnosis?

a. Anankastic
b. Anxious (avoidant)
c. Antisocial
d. Borderline
e. Narcissistic

Answer:
This man suffers from narcissistic personality disorder which is characterised by a sense of entitlement and importance.

5. Which of the following personality disorders has the highest admission rate?

a. Anxious
b. Borderline
c. Dissocial
d. Dependent
e. Histrionic

Answer:
The rates are as follows: Anxious: 5%; Borderline: 52%; Dissocial: 13%; Dependent: 2%; Histrionic: 2%.

EMIS

1. A 40-year-old male has always been extremely neat and conscientious. He often stays long hafter normal working hours to check on errors.

a. Obsessive compulsive personality disorder
b. Paranoid personality disorder
c. Schizotypal personality disorder
d. Hysterical personality disorder
e. Antisocial personality disorder
f. Narcissistic personality disorder
g. Borderline personality disorder
h. Dependent personality disorder
i. Avoidant personality disorder
j. Schizoid personality disorder

2. A 40-year-old male reused to provide answers to standard questions during and initial clerking and threatened to stop the interview if recording his telephone number is insisted upon.

a. Obsessive compulsive personality disorder
b. Paranoid personality disorder
c. Schizotypal personality disorder
d. Hysterical personality disorder
e. Antisocial personality disorder
f. Narcissistic personality disorder
g. Borderline personality disorder
h. Dependent personality disorder
i. Avoidant personality disorder
j. Schizoid personality disorder

3. A 30-year-old night security guard at a local hospital prefers to be alone whenever possible. He has no friends and does not socialise. He does not keep updated with current affairs and has no sexual interest. He spends most of his time daydreaming.

a. Obsessive compulsive personality disorder
b. Paranoid personality disorder
c. Schizotypal personality disorder
d. Hysterical personality disorder
e. Antisocial personality disorder
f. Narcissistic personality disorder
g. Borderline personality disorder
h. Dependent personality disorder
i. Avoidant personality disorder
j. Schizoid personality disorder

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Chapter 7
Substance Misuse & Dependence

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7.1 Terminology

Substance-related disorders in psychiatry refer to the inappropriate usage of compounds capable of inducing changes in the normal functionin of the cognitive system. These changes typically include changes in mood, behaviour as well as cognitive capabilities.

Commonly used terminology used in addiction medicine include:

- **Dependence**: maladaptive usage of a chemical or substance that has led to significant impairment or distress
    - **With physiological dependency**: exhibit signs of tolerance/withdrawal
    - **Without physiological dependency**: no signs of tolerance/withdrawal
- **Abuse**: maladaptive usage of a chemical or substance in a way that differs markedly from social norms
    - Note that under the new DSM-5 there is no subclassification into dependence or abuse
- **Misuse**: similar to that of abuse, but typically applies only to substances administered by physicians
- **Addiction**: repeated and increased usage of a chemical or substance, to an extent that the discontinuation of chemical or substance would lead to significant physiological and psychological disturbances; there is also an inherent urge to continue the usage of the substance in order to avoid these physiological and psychological disturbances
- **Intoxication**: transient, reversible syndrome during which specific aspects of cognition, behavioural and social functioning are compromised as a result of usage of a particular chemical or substance
- **Withdrawal**: a constellation of symptoms that typically is substance-specific and occurs when a particular substance has been used regularly and discontinued abruptly; there are usually both psychological and physiological disturbances
- **Tolerance**: either the need for an increased dosage of a drug to achieve the same clinical response achieved previously, or a diminished clinical response achieved with the same routine dosage of the drug

Substances typically associated with the above-mentioned disorders include:

1. Alcohol
2. Amphetamine
3. Caffeine
4. Hallucinogens
5. Inhalants
6. Nicotine
7. Opioid
8. Phencyclidine (PCP)
9. Sedatives, hypnotics and anxiolytics

A more in-depth discussion of the relevant disorders will be explored in subsequent sections.

7.2 Alcohol Misuse and Dependence

Alcohol is a common and legal beverage. Alcohol is one of the most commonly abused substances in Singapore.

7.2.1 Epidemiology

Singapore Prevalence

- Lifetime prevalence
  - Alcohol abuse: 3.1%
  - Alcohol dependence: 0.5%
- 12-month prevalence:
  - Alcohol abuse: 0.5%
  - Alcohol dependence: 0.3%

7.2.2 Aetiology

The aetiology of alcohol misuse is multifactorial and best understood in a biopsychosocial model.

Table 7.1 *Aetiology of Alcohol Misuse*

Genetic Causes	**Twin studies**	**MZ: DZ ratio**
	Male alcohol abuse	70% : 45%
	Male alcohol dependence	40% : 15%
	Female alcohol abuse	50% : 40%
	Female alcohol dependence	30% : 25%
Acetaldehyde dehydrogenase (ALDH)	The genotype ALDH2 504Lys is present in 40% of East Asians. High activity isoforms of ALDH2 cause alcohol flushing reactions among Orientals and lead to unpleasant effects after drinking. The roles of the nucleus accumbens in pleasure seeking contribute to the prevalence of misuse and dependency as well.	
Cloninger's Theory	**Type 1**: Onset > 25 years, common in both men and women, loss of control, guilt, no forensic history, no family history, greater ability to abstain **Type 2**: Onset < 25 years, common in men but rare in women, inability to abstain, antisocial behaviour and with family history	
Learning Theory	1. Temporarily reduces fear or conflict through classical conditioning 2. Gains from alcoholic behaviour and operant conditioning 3. Modelling (from people who also misuse alcohol) 4. Social learning	

Personality	Antisocial personality disorder
Psychodynamic Theories	1. Oral fixation 2. Introjections of anger and slow suicide
Childhood Difficulties and Psychiatric Disorders	1. ADHD 2. Conduct disorder 3. Victims of sexual abuse 4. Family development: disruption to families with the use of alcohol by parents and siblings
Psychiatric Disorders in Adulthood	1. Affective disorders 2. Anxiety disorders
Environmental Factors	1. Marital or relationship problems (single or divorced people are more prone) 2. Changing gender roles in females (Men still have 6 times higher risk) 3. Migration 4. Stress at work and vulnerability of certain occupations (e.g. sales persons, hoteliers, brewers, bar personnel, entertainment industry, journalists, police, the armed forces, medical practitioners) 5. Alienation and social isolation 6. Poor income 7. Poor education 8. Poor awareness of the dangers of alcohol 9. Consumption during entertainment 10. Advertising promotion
National and Cultural Influences	1. Cultural attitude to drunkenness (social lubricant, celebratory use) 2. Cultural patterns of alcohol consumption 3. Use of alcohol under peer group pressure 4. Religion (the traditional Catholic "allowance" of the use of alcohol, the Methodist restriction of alcohol, the low consumption among the Jews and the forbiddance of its use in Islamic religions)

7.2.3 Clinical and Diagnositc Criteria

Clinical Criteria

Alcohol use disorder is characterised by harmful and hazardous drinking, or substance abuse which includes drinking behaviour, as the sole criterion. This applies to countries with a wide range of acceptability and consequences of substance misuse across cultures.

Three or more of the following manifestations should have occurred together for at least 1 month. If they persist for less than 1 month, they should have occurred together repeatedly within a 1 year period.

1. **Compulsion**: a strong desire or compulsion to drink alcohol
2. **Control**: impaired capacity to control drinking in terms of onset, termination, or levels of use

    - Alcohol often taken in larger amounts or over a longer period than intended
    - Persistent desire or unsuccessful efforts to reduce or control alcohol use

3. **Withdrawal**: physiological withdrawal state (e.g. shaky, restless, diaphoresis)

    - Severity of withdrawal is related to amount, duration and pattern of use

4. **Tolerance**: Need for significantly increased amounts of alcohol to achieve intoxication/desired effect, or a markedly diminished effect with continued use of the same amount of alcohol
5. **Preoccupation**: important alternative pleasures/interests being given up or reduced due to drinking, or a great deal of time spent in activities necessary to obtain, take, or recover from the effects of alcohol
6. **Persistence**: persistent alcohol use despite clear evidence and awareness of the nature and extent of harmful consequence

DSM-5 Diagnostic Criteria

There must be a problematic usage of alcohol that has led to significant impairments occurring over a total of 12 months duration, manifested by at least 2 of the following:

1. Increasing usage of alcohol, or over a longer period than originally intended
2. Repeated unsuccessful efforts to cut down or control usage, despite the desire to do so
3. Large amount of time spent on activities to obtain, use, or recover from the effects of alcohol
4. Presence of a strong desire or urge to use alcohol
5. Repeated alcohol usage resulting in a significant failure to fulfil major roles
6. Persistent usage of alcohol despite having recurrent social or interpersonal problems due to its use
7. Important activities given up due to the usage of alcohol
8. Repeated usage despite significant impairments in physical health
9. Continued use despite knowing that there have been physical or psychological problems arising from the usage of alcohol

10. Tolerance as defined by either:

    - Need for increasing amounts of alcohol to achieve the same or desired effects, or
    - Reduced effects with continued use of the same amount of alcohol

11. Withdrawal as defined by either:

    - Characteristic withdrawal symptoms, or

- Alcohol being used to prevent or avoid withdrawal symptoms

Clinicians might need to specify alcohol usage:

1. **In early remission**: when none of the criteria for alcohol use has been met for 3 months or more but less than 12 months
2. **In sustained remission**: when none of the criteria for alcohol use has been met for the last 12 months or longer
3. **In a controlled environment**: when the individual is in an environment where access to alcohol is restricted

7.2.4 Assessment of Alcohol Misuse

Table 7.2 *UK Government Recommendations on Sensible Drinking*

	Men	Women
'Safer' Levels	21 units/w	14 units/w
Hazardous Levels	21-35 units/w	14-21 units/w
Harmful Levels	35/50 units/w	21-35 units/w
Dependent Levels	> 50 units/w	> 35 units/w
Sensible Drinking	Max. 3-4 units/d	Max. 2-3 units/d
Against Heart Disease	2 units/d for > 40yo	2 units/d after menopause

There is no ‘safe’ level for drinking.

The lower limits set for women are due to their higher ratio of fat to water and hence inability to dilute the alcohol consumed. Men who drin more than 30 units per week are associated with 3.5 times increase in mortality rate at 15 years. Women are more vulnerable to alcohol-related liver disease.

- **Moderate Drinkers**: People drinking at or below the identified limits in a safe pattern
- **Hazardous Drinkers**: People drinking above the safe limits without the occurrence of problems or dependency
- **Harmful Drinkers**: People drinking above the safe limits with the occurrence of problems but without established dependency
- **Dependent Drinkers**: People drinking above the safe limits with problems and established dependency

Assessment Questionnaire for Alcohol Addiction: Alcohol Use Disorders Identification Tool (AUDIT)

- **Introduction**: I am going to ask you some questions about your use of alcoholic beverages during this past year. Please explain what is meant by ‘alcoholic beverages’ using local examples of beer/wine/vodka.

- **Hazardous alcohol misuse**:

    1. Frequency of drinking: “How often do you have a drink containing alcohol?”
    2. Typical quantity: “How many drinks containing alcohol do you have on a typical day when you are drinking?”
    3. Frequency of heavy drinking: “How often do you have six or more drinks on one occasion?”

- **Dependence symptoms**:

    4. Impaired control over drinking: “How often during the last year have you found that you were not able to stop drinking once you had started?”
    5. Increased salience of drinking: “How often during the last year have you failed to do what was normally expected from you because of drinking?”
    6. Morning drinking: “How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?”

- **Harmful alcohol use**:

    7. Guilt after drinking: “How often during the last year have you had a feeling of guilt or remorse after drinking?”
    8. Blackouts: “How often during the last year have you been unable to remember what happened the night before because you had been drinking?”
    9. Alcohol-related injuries: “Have you or someone else been injured as a result of your drinking?”
    10. Others concerned about drinking: “Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?”

AUDIT Scores and Management:

- **0-7**: Alcohol education
- **8-15**: Simple advice
- **16-19**: Simple advice, brief counselling and continued monitoring
- **20-40**: Referral to specialist for diagnostic evaluation and treatment; a high AUDIT score is strongly associated with suicidality

7.2.5 Acute Alcohol Intoxication

Table 7.3 *Core Features of Acute Alcohol Intoxication*

Dysfunctional Behaviour	Signs
• Disinhibition • Argumentativeness • Aggression • Lability of mood • Impaired attention	• Unsteady gait • Difficulty in standing • Slurred speech • Nystagmus • Decreased level of consciousness

Dysfunctional Behaviour	Signs
• Impaired judgement • Interference with personal functioning	• Flushed face • Conjunctival injection

DSM-5 Diagnostic Criteria

There must be recent use of alcohol and clinically significant behavioural or psychological changes must have arisen during or shortly after the use, characterized by at least one of the following signs or symptoms:

1. Slurred speech
2. Incoordination
3. Unsteady gait
4. Nystagmus
5. Impairments in attention or memory
6. Stupor or coma

Clinical features of alcohol intoxication (SAM's GIN):

Speech slurred
Attention impaired
Memory impaired
Stupor/coma

Gait unsteady
Incoordination
Nystagmus

7.2.6 Complications of Alcohol Misuse

Table 7.4 *Physical Complications of Alcohol Misuse*

Head and Brain	• **Neurological Complications**: chronic alcohol dependence damages the spinocerebellum and leads to sensory ataxia with depressed deep tendon reflex. This will increase fall risk. • **Demyelination**: optic atrophy, central pontine myelinolysis (bulbar palsy, locked in syndrome, quadriplegia, loss of pain sensations, fatal), Marchiafava-Bignami syndrome (ataxia, dysarthria, epilepsy, impairment of consciousness, spastic paralysis and dementia). • **Retrobulbar neuropathy**: loss of central vision (e.g. bilateral central scotoma); preventable with vitamin B replacement. • **Cognition**: alcohol damages the mammillary bodies, the floor of the fourth ventricle and cerebral atrophy leading to memory impairments. • Thiamine deficiency will lead to **Wernicke encephalopathy** (ataxia, ophthalmoplegia, memory disturbance, 10% have classical triad, hypothermia and confusion) 80% of untreated Wernicke's encephalopathy will convert to **Korsakoff psychosis** (lesions in periventricular and periaqueductal grey matter, with extensive retrograde amnesia and preserved implicit memory). • **Neuropsychiatric Phenomena**: change in personality, irritability, depression and anxiety. Morbid jealousy may occur in men secondary to erectile dysfunction. • **Alcoholic hallucinosis** occurs in clear sensory during abstinence. It persists 6 months after abstinence and occurs in 5-10% of cases. It involves unpleasant sounds or threatening voices but absence of thought disorder or mood incoherence. It has good prognosis and shows rapid response to antipsychotics.

	• **Idiosyncratic alcohol intoxication (mania a potu)**: aggression, psychosis and delirium occur within minutes after intoxication of alcohol. • **Head injury** results in neuropsychiatric symptoms. • **Seizure** (10%).Tonic clonic seizure and seizure threshold is reduced.
Lung	Increase risk of pneumonia , tuberculosis, respiratory depression.
Upper GIT	Cancer of mouth, pharynx and oesophagus. Mallory-Weiss tear leads to upper GI bleeding.
Liver	Impairments of liver function, ↑ GGT and ↑ MCV (PPV: 85%), AST:ALT > 2:1 = alcohol hepatitis (AST: ALT <1= viral hepatitis), cirrhosis (more common in female) and liver cancer, hepatic encephalopathy and hepatocerebral degeneration.
Heart	• Coronary artery disease, cardiomyopathy, heart failure, arrhythmia and macrocytic anaemia. • Hypertension increases the risk of CVA. Hypotension is possible.
Pancreas	Pancreatitis, hypo- or hyperglycaemia.
Stomach	Inflammation and gastritis.
Intestine	Inflammation, diarrhoea, malnutrition and vitamin deficiencies (e.g. Vitamin B1), malabsorption syndrome.
Urea and electrolytes	↓ Na, ↓ $Mg2^{+}$, ↓ $PO4^{+}$, ↑ $Ca2^{+}$
Sexual dysfunction	In men, alcohol misuse may lead to erectile dysfunction. In women, consumption of alcohol during pregnancy will give rise to foetal alcohol syndrome.
Peripheral	Tremor, peripheral neuropathy, acute proximal myopathy, hypo- or hyperthermia and palmar erythema.

The top four causes of early death in people who are dependent on alcohol are heart disease, cancer, accident and suicide.

Alcohol decreases sleep latency, REM sleep and stage IV sleep, causing more sleep fragmentation and longer episodes of awakening.

7.2.7 Management

Non-Pharmacological

- **Cognitive Psychotherapy**
  - **Stages of Change Model**: assess patient's readiness for behavioural change
    - **Precontemplation**: the patient does not recognise or accept the diagnosis yet and does not see the need for change
    - **Contemplation**: the patient now recognises alcohol misuse and considers pros and cons of treatment

        - **Decision**: the patient has decided to quit alcohol misuse
        - **Action**: the patient has made the change to quit and the change has been integrated into the patient's life
        - **Maintenance**: changes have been integrated into the patient's life and he/she has been abstinent from alcohol
        - **Relapse**: restart of addictive pattern of use after previous abstinence
    - **Motivational Interviewing**: empower patients to change via analysis of pros and cons of continued drinking
        - **Listening with empathy**: listen effectively and allow the patient to give input without interrupting; focus on using open-ended questions during the interview; reflect upon the patient's thoughts and focus on collaboration to set common achievable goals; understand the patient's unique perspective and experience; create equal ground for clinician and patient, recognition and justification are important parts of this process
        - **Allowing patients to voice their own reasons for change**: allow patients to articulate their reasons for not changing; avoid advice-giving; give appropriate reinforcement and clarify key misconceptions; examine what patients find challenging
        - **Roll with resistance**: the clinician should never be in the position of arguing or trying to persuade the patient to take a different position, or telling the patient what must be done immediately
        - **Support self-efficacy**: the process of giving patients hope, optimism, and providing tools to help patients succeed; exonerate failures

- **Cue Exposure**
    - Behavioural concept using classical conditioning to help patients avoid cues which might predispose them to further episodes of drinking

- **Alcoholics Anonymous**
    - A self-help group first formed in the USA with the sole purpose of enabling patients to quit their drinking habits
    - **12 steps:**
        - We admitted we are powerless over alcohol - that our lives had become unmanageable
        - Came to believe that a power greater than ourselves could restore us to sanity
        - Made a decision to turn our will and our lives over to the care of God as we understood him
        - Made a searching and fearless moral inventory of ourselves
        - Admitted to God, to ourselves, and to another human being the exact nature of our wrongs
        - Were entirely ready to have God remove all these defects of character
        - Humbly ask Him to remove our shortcomings
        - Made a list of persons we had harmed, and became willing to make amends to them all

        - Made direct amends to such people whenever possible, except when to do so would injure them or others
        - Continued to take a personal inventory, and when we are wrong, to promptly admit to it
        - Sought through prayer and meditation to improve our conscious contact with God as we understood Him praying only for knowledge of His will for us and the power to carry that out
        - Having had a spiritual awakening as a result of these steps we tried to carry this message to alcoholics and to practice these principles in our affairs

Pharmacological

- **Disulfiram**
    - **Starting dose**: 800mg/day then reduce to 100-200mg/day
    - **Mechanism of action**:
        - Inhibits aldehyde dehydrogenase, leading to acetaldehyde accumulation after alcohol consumption, resulting in unpleasant effects (including flushing, tachycardia and hypotension)
        - Aversion effect occurs 10-30 minutes after drinking and is dose dependent
        - Reaction to alcohol discourages drinking and reduces the number of days spent on drinking
        - Patients must be advised that the reaction may last for one week, and alcohol should be avoided for one week after cessation of disulfiram
    - **Contraindications**:
        - Consumption of alcohol less than one day before starting disulfiram
        - Advanced liver disease
        - Cardiac failure
        - Coronary artery disease
        - Cerebrovascular disease
        - Pregnancy
        - Breastfeeding
    - **Drug interactions**: increases levels of warfarin, diazepam, theophylline
    - **Side effects**:
        - **Common**: halitosis, nausea, reduced libido, peripheral neuritis, liver damage
        - **Dangerous**: arrhythmia, hypotension, collapse (therefore not commonly prescribed)
- **Acamprosate**
    - **Starting dose**: 666mg TDS for adult with body weight ≥ 60kg
    - **Mechanism of action**:
        - Withdrawal of alcohol enhances action of glutamate at NMDA receptors and voltage- sensitive Ca2+ channels, attenuating action of GABA at inhibitory GABAA receptors and resulting in agitation and craving during alcohol withdrawal

        - Acamprosate works as a GABA agonist and glutamate antagonist, inactivating NMDA receptors and preventing Ca2+ influx, in turn reversing GABA and glutamate imbalance when abstaining from alcohol and reducing long-lasting neuronal hyperexcitability
        - Increases the likelihood of abstinence by reducing craving in chronic alcohol dependence
        - Should be started as soon as possible during abstinence
        - Benefits will continue1-2years after stopping acamprosate
    - **Contraindications**:
        - Severe renal/hepatic impairment
        - Pregnancy
        - Breastfeeding
        - More than one relapse while taking acamprosate
        - Not licensed for use in elderly
    - **Drug interactions**: can be combined with disulfiram
    - **Side effects**: diarrhoea, nausea, rash, bullous skin reactions, fluctuation in libido
- **Naltrexone**
    - **Starting dose**: 25mg/day, increase to 50mg/day on weekdays and 100mg/day on weekends
    - **Mechanism of action**:
        - Opioid antagonist; blocks opioid receptors responsible for reward and craving
        - Alcohol becomes less rewarding and euphoric effects are not experienced
        - Not licensed to treat alcohol dependence in the UK due to mortality after overdose and potential withdrawal
    - **Indications**:
        - Used in people who are in abstinence and highly-motivated
        - Violent behaviours among people with learning disability
- **Diazepam**
    - **Indications**: seizure prophylaxis only and not for sedative effect
    - **Dosage**:
        - **Mild dependence**: small dose is sufficient
        - **Moderate dependence**: larger dose required; treatment over 5-7 days
            - **Day 1-2**: 5mg TDS
            - **Day 3-4**: 2.5mg TDS
            - **Day 4-5**: 2.5mg BD
            - **Day 6-7**: 2.5mg ON
        - **Severe dependence**: very high dose required; treatment over 10 days
            - **Day 1-2**: 10mg QDS
            - **Day 3-4**: 10mg TDS
            - **Day 5-6**: 5mg TDS
            - **Day 7-8**: 2.5mg TDS
            - **Day 9-10**: 2.5mg ON

7.2.8 Alcohol Withdrawal Syndrome (AWS)

DSM-5 Diagnostic Criteria

There must be cessation or reduction in alcohol usage that has previously been heavy and prolonged. At least 2 of the following signs and symptoms must have developed within several hours to few days after stopping the usage of alcohol:

1. Sweating or tachycardia (autonomic hyperactivity)
2. Increased hand tremor
3. Difficulties falling asleep
4. Nausea or vomiting
5. Transient visual, tactile or auditory hallucinations or illusions
6. Psychomotor agitation
7. Anxiety
8. Generalized tonic-clonic seizures

Alcohol withdrawal syndrome occurs when the hyperactive brain cannot adjust to a sudden drop in blood alcohol concentration

Clinical Features

- Tremor of the hands and tongue
- Sweating
- Nausea
- Retching or vomiting
- Tachycardia
- Psychomotor agitation
- Headache
- Insomnia
- Malaise
- Transient hallucination
- Grand mal convulsions

Aide de memoire

Clinical features of alcohol withdrawal syndrome (PAST NITES):

Psychomotor agitation
Anxiety
Seizures
Transient hallucinations
Nausea/vomiting Insomnia
Tremor
Excitability
Sweating

Time of onset

Within hours of last drink; peak for delirium tremens is within 48 - 72 hours.

Delirium Tremens (DT)

DT is a toxic confusion state when AWS is severe. Clinical presentation involves a triad of symptoms:

1. Clouding of consciousness and confusion
2. Vivid visual hallucinations

3. Marked tremor

In addition to confusion and marked tremor, the person may demonstrate common symptoms of autonomic instability, paranoid delusions, agitation, and sleeplessness (with REM sleep rebound).

DT is potentially life-threatening; mortality is 5%.

Management of Alcohol Withdrawal

- **Long-acting benzodiazepine (diazepam)**: for alleviating withdrawal symptoms and prophylaxis for seizure
- **Short-acting benzodiazepines** (lorazepam): if there is liver impairment
- **Thiamine (Vitamin B1)**: prophylaxis/treatment for Wernicke encephalopathy
    - IV 500mg Q8hrly for 3-5 days then oralise (neurobion or Princi-B fort 1-2 tabs)
    - Opthalmoplegia is the first sign to respond
- **Antipsychotics** (haloperidol, olanzapine, risperidone): treat hallucinations and agitation

7.2.9 OSCE: Alcohol Dependence

A 40-year-old man was admitted to the medical ward with a minor head injury while drunk. Routine blood tests showed increased GGT and MCV. The physicians have sent a referral to you because the patient also accuses his wife of having an affair with another man although there is no evidence to suggest it.

Task: assess this patient for alcohol misuse and dependence.

Video 7.1 *Drunk Woman*

Table 7.5 *OSCE Grid: Alcohol Dependence*

A) Introduction			
A1) Introduction	A2) Drinking habits	A3) Average alcohol consumption	A4) Social factors
I am Dr. XXX. I understand that you have been referred from your physician as you have had some blood test abnormalities. There is	When did you first taste alcohol? When did you start drinking occasionally and then regularly at	How much do you drink every day, on average?	Do you usually drink alone or with friends? Do you have a tendency to indulge in more alcohol when you are

also some concern about your relationship with your wife. Could we spend some time to explore that in further detail?	weekends, evenings, lunchtimes and in the mornings?	What types of alcohol do you usually drink? What else do you drink? Do you ever drink alcohol which is not meant to be edible e.g. cooking wine, hand disinfectant?	drinking with friends? Do you always drink with the same company? Where do you usually drink? Do you tend to drink in the same place?
B) Tolerance and Withdrawal			
B1) Tolerance	B2) Withdrawal	B3) Physical effects	B4) Hallucinations
Nowadays do you need more alcohol to get drunk than what you needed in the past? What is the maximum you have drunk in a day? How much can you drink without feeling drunk?	What happens if you miss a drink? What would happen if you go without a drink for a day or two?	Do you feel shaky or sweat a lot? Have you ever had fits due to alcohol use?	Have you ever seen or heard things when you are unable to have your usual amount of alcohol?
C) Motivation to stop drinking (CAGE Questionnaire)			
C1) Cutting down	C2) Annoyed	C3) Guilt	C4) Eye-opener
Have you ever felt that you need to cut down on your drinking?	Have people annoyed you by criticising your drinking?	Have you ever felt guilty about drinking?	Have you ever felt you needed alcohol first thing in the morning to steady your nerves or get rid of a hangover?
D) Complications of drinking			
D1) Family and social issues	D2) Work and financial issues	D3) Forensic issues	D4) Relationship issues
Have you had issues with your family because of your drinking habits?	Has your drinking habit got you into trouble at work? Do you have any problems financing your drinking habit?	Have you got into trouble with the law because of drinking? Have you ever had issues with drink driving, drunk and disorderly behaviour in public, or getting into fights while drunk?	Have there been any problems with your existing marital relationship?
E) Treatment and Motivational Interviewing			
E1) Treatment	E2) Relapse	E3) Current suitability to quit drinking	E4) Psychiatric comorbidity

Have you previously undergone any specific treatment for your alcohol issues?	How long have you been successful without relying on alcohol? Why did you start drinking again? When you restarted, how long did it take before you were back at your normal level of consumption?	Do you feel you might have a problem with alcohol? Have you ever thought of giving up alcohol completely? What do you think will happen if you do so?	Depression (commonest) Anxiety Insomnia

7.3 Opioid Misuse and Dependence

In Singapore, opioid misuse came in different forms across time. In 1970s to 1980s, heroin was commonly abused. Between 2004-2006, opioid addicts abused buprenorphine, a partial opioid agonist which was banned in Singapore in 2006. Recently, oxycodone misuse has been out of control in the United States. In Singapore, oxycodone is only used in palliative setting.

7.3.1 DSM-5 Diagnostic Criteria

Opioid Use Disorder

There must be problematic usage of opioid that has led to significant impairments in terms of functioning over a 12 month period. The remaining criteria are similar to that of alcohol use disorder.

Opioid Intoxication

There must be recent usage of opioid, with the presence of pupillary constriction (or pupillary dilation due to anoxia from severe overdose) and at least 1 of the following signs and symptoms:

1. Feeling drowsy or losing consciousness
2. Slurring of speech
3. Impairments in attention or memory

There must also be significant problematic behavioural or psychological changes that have arisen during or shortly after the usage.

Aide de memoire

Clinical features of opioid intoxication (SAD+):

Slurred speech
Attention/memory impairment
Drowsiness
+ miosis

Opioid Withdrawal

There is either (a) recent cessation of the usage of opioid that was previously heavy and prolonged or (b) recent administration of an opioid antagonist after a period of opioid usage.

This is manifested by at least 3 or more of the following, which develops within minutes to several days:

1. Mood changes: dysphoria
2. Gastrointestinal disturbances including nausea or vomiting
3. Muscular aches
4. Lacrimation or rhinorrhoea
5. Pupillary dilation, piloerection or sweating

Aide de memoire

Clinical features of opioid withdrawal (ARMY FINDS+):

Aches
Rhinorrhoea/lacrimation
Mood (dysphoric)
Yawning
Fever
Insomnia
Nausea/vomiting
Diarrhoea
Sweating
+ mydriasis, piloerection

7.3.2 Epidemiology

In the United States, the estimated prevalence rate of opioid misuse and dependence is 2%. It is most common in individuals between the ages of 30-40s, and more predominant in males compared to females (M:F = 3:1).

In the Asian context (Hong Kong), the estimated prevalence of opioid abuse has been estimated to be 52.9% out of the total proportion of drug abusers in 2011.

7.3.3 Mechanism of Action

Classification

Opioids can be divided into agonists, antagonists and partial agonists.

- **Agonists**: bind to and directly activate specific receptors; e.g. morphine, methadone, fentanyl
- **Antagonists**: bind to but do not activate the specific receptors; e.g. naltrexone and naloxone
- **Partial agonists**: bind to receptors but only activate them to a limited extent e.g. buprenorphine

Neurochemistry

Opioid works via interactions with mu and delta receptors which increase activity in the mesolimbic system and the release of dopamine.

Mu receptors are potassium-channel linked and inhibit adenylate cyclase. Morphine activates mu receptors preferentially. Binding of morphine to mu receptors inhibits the release of GABA from nerve terminals, reducing the inhibitory effect of GABA on dopaminergic neurones.

The increased activation of dopaminergic neurones in the nucleus accumbens and the ventral tegmental areas, which are part of the brain's 'reward pathway', and the release of dopamine into the synaptic results in sustained activation of the post-synaptic membrane.

Continued activation of the dopaminergic reward pathway leads to feelings of euphoria and the 'high' or disinhibition, impaired attention and judgement, and interference with personal functioning associated with heroin use.

Route of Administration

The route of administration depends on the properties of the individual drug. Opium is commonly smoked. Heroin is usually injected either subcutaneously or intravenously. In recent years, snorting of heroin has increased in incidence.

Opioid Misuse and Psychiatric Disorders

Some common psychiatric disorders associated with opioid misuse include opioid intoxication delirium, opioid induced psychotic disorder, and opioid induced mood disorder. Opioid induced sexual dysfunction and opioid induced sleep disorder.

7.3.4 Clinical Features

Opioid Intoxication

Typical behaviour or psychological changes following intoxication include:

1. Initial euphoria followed by feelings of apathy, dysphoria, psychomotor agitation or retardation, associated with impaired judgment, social or occupational functioning
2. Pupillary constriction, or at times, pupillary dilation due to anoxia from severe overdose
3. Drowsiness or coma, slurred speech and impairments in attention and memory, which occurs when a massive overdose of opioid occurs

Opioid Tolerance

Typical behaviour or psychological changes following development of tolerance include:

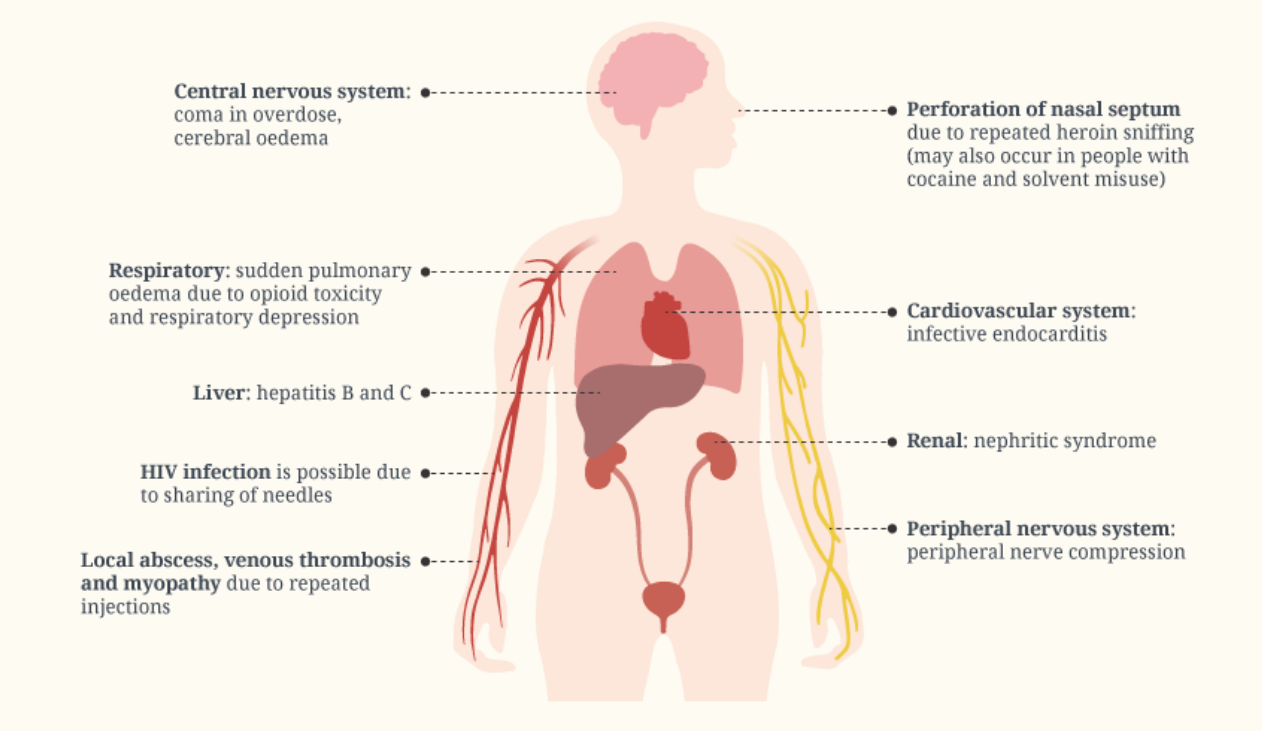
1. Development of feelings of euphoria or sedation
2. Nausea and vomiting

Opioid Withdrawal

During the initial stages of withdrawal (within hours of the last dose), there is intense craving for the drug, lacrimation (tearing), rhinorrhoea (running nose), yawning and diaphoresis (sweating). Individuals in the later stages of withdrawal (within 12 hours to 72 hours of the last dose) experience mild to moderate sleep disturbance, mydriasis, anorexia, piloerection, increased irritability and tremors. Following this stage, individuals might experience further withdrawal symptoms including severe insomnia, violent yawning, weakness, nausea and vomiting, chills and fever, flushing, spontaneous ejaculation and abdominal pain.

7.3.5 Complications of Opioid Misuse

Figure 7.1 *Physical Complications of Opioid Misuse*


Central nervous system: coma in overdose, cerebral oedema
Perforation of nasal septum due to repeated heroin sniffing (may also occur in people with cocaine and solvent misuse)
Respiratory: sudden pulmonary oedema due to opioid toxicity and respiratory depression
Cardiovascular system: infective endocarditis
Liver: hepatitis B and C
Renal: nephritic syndrome
HIV infection is possible due to sharing of needles
Peripheral nervous system: peripheral nerve compression
Local abscess, venous thrombosis and myopathy due to repeated injections

7.3.6 Management

Pharmacological

- **Methadone** (opioid substitute)
  - **Dosage:**
    - **Starting**: 10-30mg/day
    - Gradually increase by 5-10mg/week to achieve appropriate dose range
    - **Target**: maintain patients on 60mg/day or less
  - **Contraindication**: QTc prolongation
- **Buprenorphine** (opioid substitute)
  - **Class**: partial opioid agonist
  - **Dosage**:
    - **Target**: 8-32mg/day
    - Can be given just 3 times/week in view of longer-acting properties
  - **Contraindications**: history of hyper sensitivity, consumption of alcohol, consumption of sedative hypnotics e.g. benzodiazepines

Psychological

- **Therapeutic group therapy** in a structured environment
- **Psychoeducation**: possibility of HIV transmission when using shared needles

7.4 Stimulants

Stimulants are substances which induce cardiovascular stimulation, elevated mood and reduced need for sleep. Common stimulants that are abused include cocaine, amphetamine and cannabis.

7.4.1 DSM-5 Diagnostic Criteria

Video 7.2 *Stimulant Abuse*

Stimulant Use Disorder

There must be problematic usage of amphetamine-type substances, cocaine, or other stimulant leading to significant impairments in terms of functioning over a 12 month period. The remaining criteria are similar to that of alcohol use disorder.

Stimulant Intoxication

There must be recent usage of amphetamine-type substances, cocaine or other stimulant that has led to significant impairments in functioning shortly after usage. This is manifested by at least 2 of the following signs and symptoms:

1. Increase or decrease in heart rate
2. Pupillary dilation
3. Elevated or lowered blood pressure
4. Perspiration or chills
5. Nausea or vomiting
6. Evidence of weight lost
7. Psychomotor agitation or retardation
8. Muscular weakness, respiratory depression, chest pain or cardiac arrhythmias
9. Confusion, seizures and coma

Stimulant Withdrawal

There must be recent cessation of prolonged usage. Within a few hours to several days upon cessation, there must be dysphoric mood and at least 2 of the following:

1. Decreased energy and feelings of fatigue
2. Vivid and unpleasant dreams
3. Sleep changes: either insomnia or hypersomnia

4. Marked increased appetite
5. Psychomotor changes: retardation or agitation

Cannabis Use Disorder

There must be a problematic pattern of cannabis usage, leading to significant impairments over a duration of 12 months. This is manifested by at least 2 criteria similar to those set out for alcohol use disorder.

Cannabis Intoxication

There must be recent use of cannabis and there have been significant problematic behavioural or psychological changes which develop since the commencement of use. At least 2 of the following signs and symptoms must develop within 2 hours of use:

1. Injection of conjunctiva
2. Appetite that is better than normal
3. Dryness of mouth
4. Marked increased in heart rate

Cannabis intoxication might also occur with perceptual hallucinations.

Cannabis Withdrawal

There must be recent cessation of cannabis use that was previously heavy and prolonged. 3 or more of the following signs and symptoms must be present:

1. Mood swings characterized by increased irritability
2. Anxiety features or marked nervousness
3. Sleep problems that present with initiation difficulties or with disturbing dreams
4. Reduction in appetite and associated weight loss
5. Restlessness
6. Physical symptoms including abdominal pain, tremors, sweating, fever, chills and headache

7.4.2 Epidemiology

Amphetamine

- **Prevalence (USA)**: 7%; highest amongst 18-25 year olds; no gender difference
- **Prevalence (Hong Kong)**: 12.4% of the total proportion of drug abusers

Cocaine

- **Prevalence (USA)**: 2%; at least 10% of the population has tried cocaine; highest among 18-25 year olds; M:F = 2:1
- **Prevalence (Hong Kong)**: 6.6% of the total proportion of drug abusers

Cannabis

- **Prevalence (USA)**: 5% of population actively abusing; all age groups similarly affected but highest amongst 18-21 year olds
- **Prevalence (Hong Kong)**: 3.1% of the total proportion of drug abusers

7.4.3 Neurochemistry

Stimulants induce neurochemical changes in both the serotonin and dopamine systems.

Cocaine

- **Pharmacokinetics**:
  - **$t_{1/2}$** = 50minutes
  - **Route of administration**: intranasal, intravenous
- **Pharmacodynamics**:
  - Release of dopamine from dopamine-containing neurons in nucleus accumbens produces intense feeling of euphoria
- **Clinical Effects**:
  - Dose-related increase in arousal, improved performance on tasks of vigilance and alertness, sense of self-confidence and well-being
  - Cocaine users commonly go on binges with cocaine leading to a 'crash' (depression, exhaustion) after a period of heavy use
  - At higher doses, produces brief euphoria, involuntary motor activity, stereotyped behaviour, paranoia
  - Sensitisation as a result of repeated administration has been linked to paranoid and psychotic manifestations of cocaine use
  - Cocaine users develop desire for more cocaine
  - Intranasal use results in earlier seeking behaviour (after10-30minutes) compared to intravenous use (50 minutes)
  - Injection may cause a euphoric rush lasting for 10-15 minutes
- **Complications**:
  - More likely to develop psychosis: male, IV users, first-time users, greater duration and amount of chronic use, low BMI

Amphetamines

- **Pharmacodynamics**: causes excessive release of dopamine leading to hyper-excitable state
- **Clinical Effects**:
  - Tachycardia, arrhythmia, hyperthermia, irritability, mydriasis

- Psychotic-like state can result from acute/chronic ingestion leading to paranoia, hallucination and delirium-like state; may last for 3-4 days
- Withdrawal state ('crash'): fatigue, hypersomnia, hyperphagia, depression, nightmare

Cannabis

- **Pharmacodynamics**: activate cannabinoid receptors causing inhibition of adenylate cyclase, subsequent decrease in intracellular cAMP concentration, and inhibition of neurotransmission
  - Two subtypes of cannabinoid receptor: CB1 and CB2 receptors
  - CB1 receptors highly expressed in hippocampus, cortex, basal ganglia, cerebellum, spinal cord; accounts for effects of cannabis on memory, cognition and movement
  - Both CB1 and CB2 receptors are coupled to inhibitory G-proteins

7.4.4 Route of Administration

Cocaine

- **Smoking**: onset of effect within 6-8 seconds
- **Inhalation**: onset of effect 3-5 minutes, peak levels at 30-60 minutes (nasal absorption limited by intrinsic vasoconstrictive effects)
- **Intravenous**: onset of effect much slower as circulation time is needed

Amphetamines

- **Oral ingestion**
- **Intravenous**
- **Nasal inhalation**
- **Smoking**

Cannabis

- **Smoking**
- **Oral ingestion**

7.4.5 Intoxication

Video 7.3 *Amphetamine and Depression*

Cocaine, amphetamine or cannabis intoxication leads to psychological and physiological changes including euphoria or blunted affect, changes in sociability, hypervigilance, impaired judgement,

tachycardia or bradycardia, pupillary dilation, elevated or lowered blood pressure, perspiration or chills, nausea or vomiting, weight loss, psychomotor agitation or retardation, muscular weakness, respiratory depression, chest pain or cardiac arrhythmias, confusion and seizures.

Table 7.6 *Acute Intoxication of Cocaine*

Dysfunctional Behaviour (at least one of the following)	Signs (at least one of the following)
• Euphoria, sensation of increased energy • Hypervigilance • Grandiose beliefs/actions • Abusiveness/aggression • Argumentativeness • Lability of mood • Repetitive stereotyped behaviours • Auditory/visual/tactile illusions • Hallucinations (usually with intact orientation) • Paranoid ideation • Interference with personal functioning	• Tachycardia (sometimes bradycardia) • Cardiac arrhythmias • Hypertension (sometimes hypotension) • Sweating and chills • Nausea/vomiting • Evidence of weight loss • Pupillary dilatation • Psychomotor agitation (sometimes retardation) • Muscular weakness • Chest pain • Convulsions

Table 7.7 *Acute Intoxication of Cannabis*

Dysfunctional Behaviour (at least one of the following)	Signs (at least one of the following)
• Euphoria, disinhibition (e.g. giggling) • Anxiety/agitation (20% of patients) • Suspiciousness/paranoid ideation • Temporal slowing/rapid flow of ideas • Impaired judgement/attention/reaction time • Auditory/visual/tactile illusions • Hallucinations with preserved orientation • Depersonalisation/derealisation • Interference with personal functioning	• Increased appetite • Dry mouth • Conjunctival injection (reddening of eyes) • Tachycardia

7.4.6 Withdrawal

Cocaine or amphetamine withdrawal induces the following symptoms: dysphoric mood associated with fatigue, vivid and unpleasant dreams, increased appetite, and psychomotor agitation or retardation. Cannabis does not usually have a characteristic withdrawal syndrome.

7.4.7 Management

Cocaine

- **Symptomatic treatment**: chemical/physical restraints (reduce agitation), extremely low dose of appropriate antipsychotics (if severe agitation)

Amphetamines

- **Symptomatic treatment**: benzodiazepines (reduce agitation); long-term antidepressants (maintain drug-free behaviours after detoxification)

Cannibis

- **Acute treatment** for intoxication usually not needed
- **Anxiolytics** for persistent hallucinations or delusions if present

7.5 Hallucinogens

Hallucinogens are substances which produce hallucinations, loss of contact with reality, and an experience of expanded or heightened consciousness. Common hallucinogens include phencyclidine (PCP), ketamine, MDMA (ecstasy) and lysergic acid diethylamide (LSD).

Ketamine is a short derivative of phencyclidine. It is commonly abused in Asia via the oral or intranasal route. It can lead to euphoric effects and addiction. Ketamine abusers develop psychotic experiences, dissociative states, cognitive impairments and urinary incontinence. As a result of these effects as well as the 'crash' after temporary highs, ketamine is not recommended for use as a rapid antidepressant as proposed by some researchers.

7.5.1 DSM-5 Diagnostic Criteria

Phencyclidine and Ketamine Use Disorder

There must be a pattern of continuous usage that has led to impairments in terms of functioning, which has occurred over a 12 month period. This is manifested by at least 2 criteria similar to those set out for alcohol use disorder.

Phencyclidine Intoxication

There must be recent use of PCP or other similar substances. Within an hour of usage, the individual should experience at least 2 of the following signs and symptoms:

1. Either vertical or horizontal nystagmus
2. Hypertension or tachycardia

3. Reduced response to pain
4. Cerebellar signs e.g. ataxia
5. Dysarthria
6. Rigidity of muscles
7. Seizures or coma
8. Hyperacusis

Hallucinogen Persisting Perception Disorder

Following cessation of use of a particular hallucinogen, there must be re-experiencing of perceptual disturbances experienced while previously intoxicated with the hallucinogen. This might include:

1. Geometric hallucinations
2. False perception of movement in peripheral visual field
3. Flashes of colour
4. Colours which are intensified
5. Trials of images of moving objects
6. Positive afterimages
7. Halos that appear around objects
8. Macropsia and micropsia

7.5.2 Epidemiology

MDMA

- **Prevalence (USA)**: 2%; especially common among young white men between 15-35 years old
- **Prevalence (Hong Kong)**: 0.9% of the total proportion of drug abusers

7.5.3 Route of Administration

Hallucinogens are usually orally ingested, sucked out of paper or smoked.

7.5.4 Intoxication and Tolerance

Hallucinogen intoxication usually results in marked anxiety or depression with ideas of reference and hallucinations.

Table 7.8 *Acute Intoxication of Hallucinogen*

Dysfunctional Behaviour (at least one of the following)	Signs (at least one of the following)
• Anxiety and fearfulness • Auditory/visual/tactile illusions • Hallucinations in a state of full wakefulness/alertness • Depersonalisation/derealisation • Paranoid ideation • Ideas of reference • Lability of mood • Hyperactivity • Impulsive acts • Impaired attention • Interference with personal functioning	• Tachycardia • Palpitations • Sweating and chills • Tremor • Blurring of vision • Pupillary dilatation • Incoordination

7.5.5 Management

Benzodiazepines can be used in acute intoxication. In the event that the patient is acutely psychotic and agitated, high potency antipsychotics can be considered.

7.6 Nicotine

Nicotine dependence is common because tobacco can be legally purchased. Schizophrenia patients are at higher risk to develop nicotine dependence because nicotine can enhance attention and concentration. Treatment of nicotine dependence include nicotine replacement therapy, bupropion and varenicline which is a nicotinic acetylcholine receptor agonist (common side effects include nausea, headache, insomnia and nightmare).

7.6.1 DSM-5 Diagnostic Criteria

Tobacco Use Disorder

There must be a problematic pattern of usage that has led to significant impairments over duration of at least 12 months. The remaining criteria are similar to those of alcohol use disorder.

Tobacco Withdrawal

There must be daily usage of tobacco for at least several weeks. The following signs and symptoms develop upon sudden cessation or reduction in the amount used:

1. Mood changes characterized by irritability or anger
2. Anxiety

3. Difficulties with concentration
4. Marked changes in appetite - increased appetite
5. Feelings of restlessness
6. Depressed mood
7. Difficulties with sleep initiation

7.6.2 Epidemiology

The worldwide incidence of smoking is around 47%. The mean age of onset of smoking, nicotine addiction and abuse has been estimated to be from 20 years of age onward.

7.6.3 Neurochemistry

Nicotine has the potential to activate nicotine receptors and the dopamine system, stimulating the release of multiple neurohormones.

Nicotinic receptors are found on presynaptic dopaminergic neurons; smoking of tobacco therefore leads to release of dopamine. Effects of nicotine include euphoria, enhanced motivation and sustained vigilance.

Other actions of nicotine include suppression of insulin production from the pancreas causing a slight hyperglycaemia.

7.6.4 Route of Administration

Nicotine is most commonly inhaled.

7.6.5 Intoxication

Table 7.9 *Acute Intoxication due to Tobacco Use*

Dysfunctional Behaviour (at least one of the following)	Signs (at least one of the following)
• Insomnia • Bizarre dreams • Lability of mood • Derealisation • Interference with personal functioning	• Nausea/vomiting • Sweating • Tachycardia • Cardiac arrhythmias

7.6.6 Withdrawal

Tobacco withdrawal manifests as a constellation of symptoms including intense cravings, irritability, anxieties, restlessness and difficulties with concentration.

7.6.7 Management

Doctors' advice is the strongest factor to motivate patients to quit smoking.

Pharmacological

- **Bupropion**
  - **Class**: antidepressant with noradrenergic activity
  - **Indication**: decreases effect of nicotine withdrawal
  - **Dosage**:
    - Empirical starting dose: 150mg/day
    - Subsequently titrate to 150mg BD
  - **Side effect**: headache (30%), insomnia, rash (1%), epilepsy (1/1000)
  - **Contraindications**: history of epilepsy, eating disorder, CNS tumour, psychiatric history of bipolar disorder
- **Nicotine replacement therapy (NRT)**
  - **Duration of treatment**: 8-12 weeks
  - **Routes of administration**: sublingual tablets, gum, patches, nasal spray
  - **Side effects**: local irritation, might also cause deranged capillary glucose levels in diabetics
  - **Contraindication**: not recommended to administer both bupropion and NRT together

7.7 Solvents, Sedatives, Caffeine, Steroids

These substances can be purchased legally in Singapore and these substances have addiction potential.

7.7.1 Solvents

Examples of solvents include glue, butane and toluene.

DSM-5 Diagnostic Criteria: Inhalant Use Disorder

There must be a problematic pattern of use of a hydrocarbon-based inhalant substance, which has led to much impairment in functioning occurring within a 12 month period. The remaining criteria are similar to those of alcohol use disorder.

DSM-5 Diagnostic Criteria: Inhalant Intoxication

There must be recent use of the substance, and at least 2 of the following signs and symptoms must be experienced:

1. Dizziness
2. Nystagmus
3. Incoordination
4. Slurred speech
5. Unsteadiness in gait
6. Depressed reflexes
7. Psychomotor changes: retardation
8. Tremor
9. Generalized muscular weakness
10. Blurring of vision or diplopia
11. Stupor or coma
12. Euphoria

Route of Administration

It is administered by directly spraying into the mouth or via inhalation from a bag.

Acute Intoxication

The user will have an initial excitatory phase followed by acute depression. Heavy users may exhibit personality change and cognitive impairment as solvent use leads to white matter changes in the brain. Serious complications include liver and renal impairment, perforated nasal septum and sudden death.

Table 7.10 *Acute Intoxication due to Solvent Use*

Dysfunctional Behaviour (at least one of the following)	Signs (at least one of the following)
• Apathy and lethargy • Argumentativeness • Abusiveness/aggression • Lability of mood • Impaired judgment • Impaired attention/memory • Psychomotor retardation • Interference with personal functioning	• Unsteady gait • Difficulty in standing • Slurred speech • Nystagmus • Decreased level of consciousness • Muscle weakness • Blurred vision/diplopia

Withdrawal

A withdrawal reaction rarely occurs, but would give rise to signs and symptoms of increased irritability, insomnia, diaphoresis, nausea and vomiting, tachycardia, and sometimes, hallucinations and delusions.

Management

Largely medical supportive treatment would be adequate.

7.7.2 Sedatives

Sedatives refer to drugs commonly used to treat insomnia and anxiety such as benzodiazepines.

DSM-5 Diagnostic Criteria: Sedative, Hypnotic or Anxiolytic Use Disorder

There must be problematic usage of sedative, hypnotics or anxiolytic use that has led to significant impairments in terms of functioning over a 12 month period. The remaining criteria are similar to those of alcohol use disorder.

DSM-5 Diagnostic Criteria: Sedative, Hypnotic or Anxiolytic Intoxication

There must be recent usage that has led to at least one of the following signs and symptoms developing:

1. Slurring of speech
2. Incoordination of movement
3. Unsteadiness of gait
4. Nystagmus
5. Impairments in cognition, attention and memory
6. Stupor or coma

DSM-5 Diagnostic Criteria: Sedative, Hypnotic or Anxiolytic Withdrawal

There must be recent cessation of (or reduction in) the usage of sedative, hypnotic, or anxiolytic, accompanied by at least 2 of the following signs and symptoms:

1. Sweating or tachycardia (autonomic hyperactivity)
2. Hand tremors
3. Difficulties falling asleep
4. Gastrointestinal disturbances: nausea, vomiting
5. Transient visual/tactile/auditory hallucinations/illusions
6. Psychomotor changes: particularly agitation
7. Anxiety
8. Seizures

Epidemiology

The prevalence of sedative abuse in the US is estimated at 6%, with the highest prevalence among those between the ages of 26 to 35. Females have a higher prevalence of usage (F:M = 3:1).

Neurochemistry

Most sedatives have direct agonist effects on the $GABA_A$ receptor complex.

Acute Intoxication

Table 7.11 *Acute Intoxication due to Benzodiazepine Use*

Dysfunctional Behaviour (at least one of the following)	Signs (at least one of the following)
• Euphoria and disinhibition • Apathy and sedation • Abusiveness/aggression • Lability of mood • Impaired attention • Anterograde amnesia • Impaired psychomotor performance • Interference with personal functioning	• Unsteady gait • Difficulty in standing • Slurred speech • Nystagmus • Decreased level of consciousness (e.g. stupor, coma) • Erythematous skin lesions/blisters

Withdrawal

Typical signs and symptoms associated with acute withdrawal include insomnia, anxiety, autonomic hyperactivity (e.g. sweating, tremor), hyperaesthesia, hyperacusis, headache, photophobia and withdrawal fits.

Withdrawal symptoms are most severe in the first week after stopping benzodiazepine. Sedatives with shorter half-lives are associated with a more rapid onset of withdrawal compared to drugs with a longer half-life.

Management

In treatment of sedative abuse, it is crucial to obtain a detailed drug history and urine and blood samples for drug and comorbid substance usage such as alcohol. Drug history and serum drug levels help the clinician to determine appropriate levels of benzodiazepine required for stabilization.

Detoxification involves the following processes:

1. Switching over to a longer acting benzodiazepine (e.g. diazepam) for patients to gradually undergo detoxification

2. Once the patient is comfortable and stabilized with the longer-acting drug, the dosage of the drug is then gradually reduced by 30% on subsequent days, as tolerated
3. Adjunctive medications might be required for stabilisation, especially for individuals who have been consuming a supra-therapeutic dose previously
4. Psycho-education and psychological intervention will help patients in the detoxification process

7.7.3 Caffeine

Caffeine is a methylxanthine (1,3,7-trimethylxanthine).

Neurochemistry

The main action of caffeine is competitive antagonism of adenosine A1 and A2 receptors which contribute to neuropsychiatric effects such as psychosis in caffeine intoxication secondary to release of dopamine. Higher doses cause inhibition of phosphodiesterases, blockade of GABAA receptors and release of intracellular calcium. It reaches peak blood levels after 1 to 2 hours and reduces cerebral blood flow despite being a stimulant.

DSM-5 Diagnostic Criteria: Caffeine Intoxication

There must be recent consumption of a typically high dose of caffeine, usually well in excess of 250mg. There must be presence of at least 5 or more of the following signs and symptoms:

1. Feelings of restlessness
2. Feeling anxious
3. Feeling excited
4. Difficulties with falling asleep
5. Flushed face
6. Diuresis
7. Gastrointestinal discomfort and disturbance
8. Twitching of muscles
9. Rambling flow of thoughts and speech
10. Increased heart rate
11. Periods of inexhaustibility
12. Psychomotor agitation

DSM-5 Diagnostic Criteria: Caffeine Withdrawal

There must be abrupt cessation or reduction in the usage of caffeine after prolonged daily usage. This is usually followed within 24 hours by at least 3 of the following symptoms:

1. Headache
2. Marked reduction in energy
3. Dysphoric mood, depressed mood or irritability

4. Difficulties with concentrating
5. Nausea, vomiting or muscle pain or stiffness

Adverse Effects of Caffeine

- **CNS**: migraine
- **CVS**: may precipitate sinus tachycardia but does not cause cardiac arrhythmias
- **GI tract**: relaxes the lower oesophageal sphincter and can predispose gastro-oesophageal reflux disease; also causes hypersecretion of gastric acid and increases the risk of gastric ulcers
- **Renal**: diuretic effect; advised to abstain from consuming caffeine in situations where dehydration may be significant
- **Pregnancy**: low birth weight, miscarriage; caffeine enters amniotic fluid and breast milk and affects infants due to slow metabolism

Dependence and Withdrawal

10% of caffeine users experience withdrawal effects (e.g. more than 6 cups per day). Withdrawal starts 1- 2 hours post-ingestion and becomes worst at 1-2 days before receding within a few days. Common withdrawal effects include headache, irritability, sleeplessness, anxiety, tremor and impairment of psychomotor performance.

Management

Largely symptomatic treatment is indicated with the use of a short course of benzodiazepines for treatment of associated restlessness and anxiety.

7.7.4 Steroids

Anabolic steroids are misused to increase muscle growth and body bulk.

Route of Administration: swallowed or injected

Adverse Effects: gynaecomastia (men), clitoral enlargement (women), bone hypertension, cardiac disorders, liver impairment (e.g. drug-induced hepatitis), renal impairment, testicular atrophy, priapism, aggression and irritability; death may occur due to overdose and severe infection secondary to repeated intramuscular injection

7.8 Drug Penalties in Singapore

According to the Central Narcotics Bureau (Singapore), the penalties for buprenorphine (Subutex), cannabis, cocaine, ecstasy, heroin, ketamine, LSD, methamphetamine, nimetazepam

(Erimin), BZP and TFMPP ('party pills') and novel psychoactive substances (e.g. K2, 'spices') are as follows:

- **Possession/Consumption**: up to 10 years of imprisonment or $20,000 fine or both
- **Illegal Traffic**: up to 20 years of imprisonment and 15 strokes of the cane
- **Illegal Import/Export**: up to 30 years of imprisonment or imprisonment for life and 15 strokes of the cane

7.9 Gambling Disorder

DSM-5 Diagnostic Criteria

There must be persistent and recurrent problematic gambling behaviour over the past 12 months that has led to significant impairment and distress, accompanied by at least 4 of the following:

1. Needing to gamble with an increasing amount of money to achieve the same level of excitement
2. Feelings of restlessness or irritability when attempting to cut down or stop gambling
3. Repeated unsuccessful attempts at cutting down or stopping
4. Preoccupation with gambling
5. Tendency to gamble when feeling distressed
6. Tendency to return to chase one's losses even after losing money
7. Tendency to lie to minimize the extent of involvement with gambling
8. Gambling has affected significant relationships and has caused the individual to miss opportunities
9. Often having to rely on others to help bail out of a difficult financial situation
10. Clinicians need to exclude the possibility of an underlying bipolar disorder.

Management (MOH Guidelines for Pathological Gambling)

- **Assessment**
    - Initiation
    - Progression
    - Current frequency: days/week or hours/day
    - Current severity: money spent on gambling proportional to income
    - Types of games played
    - Maintaining factors
    - Features of dependence
    - Consequences: financial, interpersonal, vocational, social, legal
    - Reasons for consultation, motivation to change and expectations of treatment o Suicide risk: high risk when facing severe financial problems
    - Axis I and II comorbidities: e.g. alcohol, substance use disorders
- **Treatment**
    - **Multidisciplinary and multimodal**: comprehensive treatment of pathological gambling

- **Pharmacological**:
  - Opioidant agonist: e.g.naltrexone; reduce gambling urges and thoughts
  - SSRIs: fluvoxamine and paroxetine; reduce gambling behaviour, urges and thoughts
- **Psychological**:
  - **Motivational enhancement therapy**: face-to-face/telephone counselling, self-help workbooks; especially recommended for individuals ambivalent about quitting gambling/entering treatment/not keen on long-term therapy
  - **Components of CBT**: recommended
- **Complementary/practical approaches**: financial counselling, limiting access to money, restricting admission into gambling venues

7.10 Internet Addiction

Internet addiction (IA) was initially considered as a new psychiatric disorder in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). However, following publication of the DSM- 5 in 2013, internet gaming disorder was instead contemplated.

The proposed diagnostic criteria for internet gaming disorder mirror the core criteria of substance misuse disorders, and include the following:

1. Preoccupation with internet gaming
2. Occurrence of withdrawal symptoms when internet gaming access is removed
3. The need to spend increasing amounts of time on internet gaming
4. Unsuccessful attempts to control internet gaming
5. Continued excessive internet gaming despite negative psychosocial consequences
6. Loss of previous interests hobbies and entertainment as a result of excessive internet gaming
7. The use of internet gaming to relieve dysphoria
8. Deceiving others about internet gaming
9. Loss of relationship, educational opportunity or career as a result of internet gaming

Complications

Medical complications include carpal tunnel syndrome, backache, thrombosis and cervical spondylosis.

Key Learning Points

1. Serum AST more than twice ALT in an alcoholic patient strongly suggests alcoholic hepatitis.
2. Serum gamma-glutamyl transferase (GGT) is increased in alcohol use and therefore used to objectively assess relapse.
3. Schizophrenia and alcohol may both present with auditory hallucinations, but schizophrenic hallucinations often have multiple voices and are more complex, whereas alcoholic hallucinosis often is that of a single voice and the auditory hallucinations are simple (noises etc.).
4. The visual hallucinations seen in delirium tremens are classically described as 'pink elephants' or Lilliputian in nature.
5. When evaluating alcohol use disorder, it is useful to ask about consumption of alcohol that is not for drinking, including Chinese cooking wine, mouthwash and hand sanitiser.
6. In treating alcohol intoxication or withdrawal, ensure that thiamine supplementation is given before glucose to prevent progression to Wernicke encephalopathy.
7. Of the pharmacological agents used to treat alcohol use disorder, disulfiram is not available locally and acamprosate can only be prescribed by an addiction medicine specialist at the Institute of Mental Health; therefore naltrexone is most commonly prescribed in Singapore.
8. Methadone is not considered an illicit substance as it is prescribed to treat opioid use disorder; buprenorphine (Subutex) is a drug previously used to treat opioid use disorder which is now illegal.
9. Amphetamine withdrawal presents similarly to atypical depression as there is fatigue, hypersomnia, weight gain secondary to hyperphagia, depression and nightmares; the astute clinician should differentiate between the two.

Revision MCQs and MEQs

MCQ

1. A nurse informs you that she has seen your patient intoxicated with alcohol during home leave. Your patient denies it. Which test would you perform to confirm that your patient is drinking again?

a. Electrolytes
b. Gamma-glutamyl transferase (GGT)
c. Mean corpuscular volume (MCV)
d. Serum alcohol level
e. Urea

Answer:
GGT becomes elevated after acute or chronic alcohol use, and remains elevated for two to five weeks afterwards. GGT is commonly used as an objective indicator of relapse. Another objective test is carbohydrate-deficient transferring (CDT) which is very expensive.

2. A 35-year-old man with history of alcohol misuse comes to the hospital and requests you to prescribe a drug to help him maintain alcohol abstinence. Which of the following drugs does not help in maintaining alcohol abstinence?

a. Acamprosate
b. Clonidine
c. Disulfiram
d. Naltrexone
e. Topiramate

Answer:
Clonidine is an α2-adrenergic agonist and can reduce withdrawal but does not help with maintenance.

3. A 24-year-old woman is referred by her obstetrician. She has an unplanned pregnancy and smokes marijuana 5 times per day. Her partner is concerned about effects of cannabis on the foetus. She avoids eye contact and appears anxious. She states that she eats and sleeps well. She emphasizes that she has a friend who delivered a healthy baby despite smoking cannabis throughout her pregnancy. Her partner is very keen to persuade her to quit cannabis. Which of the following best describes her current stage of change?

a. Action
b. Contemplation
c. Decision
d. Precontemplation
e. Maintenance

Answer:
The patient does not acknowledge or accept the potential problems associated with cannabis misuse and the need to change.

4. You are working in the Children's Emergency Department. A mother brought her 14-year-old son who was found inhaling glue in school. Which of the following is not a sign of inhalant intoxication?

a. Euphoria
b. Diplopia
c. Dysarthria
d. Nystagmus
e. Hyperreflexia

Answer:
Inhalants diminish reflexes. The signs of inhalant intoxication include dizziness, nystagmus, incoordination, slurred speech, unsteady gait, lethargy, depressed reflexes, psychomotor slowing, tremor, generalised muscle weakness, blurred vision, diplopia, stupor and euphoria.

5. A 50-year-old businessman has been injecting anabolic steroids to increase his muscle bulk. The following are all psychiatric complications of anabolic steroid misuse except:

a. Anxiety
b. Apathy
c. Depression
d. Euphoria
e. Irritability

Answer:
Anabolic steroid misuse can cause irritability, increased aggression, mood swings, distractibility, forgetfulness, and confusion.

MEQ

You are a resident in the medical department. You are asked to carry out a pre-admission assessment of a 40- year-old man who has an extensive history of excessive alcohol consumption. He has been referred by his GP for management of alcohol withdrawal. According to his wife, he has been drinking a bottle of Chinese wine every day for the last 3 years. His wife also says that he has been drinking particularly heavily over the past 3 months and over this time has eaten only occasional meals.

When you see the patient, you are convinced that he is in alcohol withdrawal. He also appears malnourished. He does not have any psychotic symptoms such as visual or auditory hallucination. You have completed the assessment, conducted a physical examination and are now charting initial medication.

1. Name two medications which you would order for this patient and their route of administration.

Answer:
Diazepam (oral)
Parenteral thiamine (IM/IV)

2. Outline the reasons for prescribing the two medications in Q1. Give one reason per medication.

Answer:
Diazepam: reduce withdrawal symptoms
Thiamine: prophylaxis to prevent Wernicke encephalopathy

3. The nurse informs you that he has hypoglycaemia and requests a dextrose saline infusion. What should you advise the nurse to check before giving dextrose saline?

Answer:
Ensure that thiamine has been administered before infusing dextrose as glucose metabolism further depletes thiamine stores

4. Name four signs or symptoms you would look for and monitor in alcohol withdrawal.

Answer:
Agitation
Anxiety
Delirium/confusion
Disorientation
Labile affect
Hypertension
Restlessness
Sweating
Tachycardia
Tremor
Visual hallucinations

5. The patient has recovered from alcohol withdrawal after one week of hospitalisation with diazepam treatment. Name three nonpharmacological interventions which can help this patient after discharge.

Answer:
Motivational interviewing
Alcoholics Anonymous
Cognitive behaviour therapy

EMIS

Withdrawal Syndromes

1. Cough, mouth ulcers and marked irritability

a. Alcohol
b. Amphetamines
c. Benzodiazepines
d. Cannabis
e. Cocaine
f. Heroin
g. LSD
h. Nicotine
i. Tobacco

2. Yawning, sneezing and sweating

a. Alcohol
b. Amphetamines
c. Benzodiazepines
d. Cannabis
e. Cocaine
f. Heroin
g. LSD
h. Nicotine
i. Tobacco

3. Vivid dreams, depression and irritability

a. Alcohol
b. Amphetamines
c. Benzodiazepines
d. Cannabis
e. Cocaine
f. Heroin
g. LSD
h. Nicotine
i. Tobacco

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Chapter 8
Eating Disorders

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8.1 Anorexia Nervosa (AN)

Epidemiology

- Third-most common type of chronic illness amongst adolescent females
- Prevalence rate: ~0.5-3.7%
- Higher incidence in adolescent and early young adult women
- Higher incidence among certain groups of individuals e.g. ballet dancers, gymnasts
- Singapore prevalence: 7.4%

Prevalence and profiles of females at risks of eating disorder in Singapore
Ho TF, Tai BC, Lee EL, Cheng S, Liow PH Singapore Med J. 2006 Jun; 47(6):499-503

Conclusion: The prevalence of females at risk of developing eating disorders (ED) is 7.4%. Malay ethnic group, using Malay language at home and the educational levels of both the subjects and their parents appear to be associated with an increased risk for development of ED.

Aetiology

- **Biological**
  - **Genetic**: relatives of AN patients have a 10-fold increase in risk of developing AN; MZ:DZ = 65%:32%
  - **Birth trauma**: cephalhaematoma, premature birth, small for gestational age predispose AN
  - **Hypothalamic dysfunction**
- **Psychological**
  - **Development**: failure of identify formation, psychosexual development in adolescents
  - **Personal events**: childhood obesity
  - **Family**: young AN patients may use the illness itself to overcome rigidity, enmeshment, conflict and overprotection in the family
  - **Underlying personality traits**: perfectionistic, neurotic traits
- **Sociocultural**
  - Changes in nutritional knowledge and dietary fashion in society
  - Cult of thinness
  - Changed roles and images in women to pursue thinness

Diagnostic Criteria

- **ICD-10**
  - **Features**
    - **Considerable weight loss** (at least 15% below expected weight) which is **self-induced** by avoidance of 'fattening foods'
    - **Self-induced vomiting, purging** (laxatives or enemas), and **excessive exercise** are supportive features but not necessary elements
    - **Self-perception**: overvalued idea e.g. dread of fatness and self-imposed low weight threshold
    - **Evidence of disorder in the hypothalamus-pituitary-adrenal axis**: females: amenorrhoea; males: loss of sexual interest and potency

    - **Atypical AN**: key features of AN are absent or only present to a mild degree
- **DSM-5**
    - **Features**
        - **Restriction of input** relative to exact requirements leading to **significantly low body weight** (weight that is less than what is considered to be minimally normal for adults, and for children and adolescents, less than what is considered to be minimall expected)
        - **Marked and excessive fear of putting on weight/becoming fat**: repetitive behaviours are carried out to prevent weight gain despite already low weight
        - **Distortions in self-perception** of body weight/shape associated with **lack of recognition** of serious consequences of current low body weight
    - **Subtypes**
        - **Restricting**: weight loss over the last three months achieved mainly by means of dieting, fasting or excessive exercise
        - **Binge-eating/purging**: recurrent episodes of binge-eating or purging (e.g. vomiting, use of laxatives, diuretics, enemas) behaviours over the last three months
    - **Severity markers**: BMI range
        - **Mild**: 17 kg/m2
        - **Moderate**: 16-16.99 kg/m2
        - **Severe**: 15-15.99 kg/m2
        - **Extreme**: < 15 kg/m2

Differential Diagnoses

1. **Other psychiatric disorders** (e.g. depression, schizophrenia, obsessive-compulsive disorder, psychotic disorder)
2. **Medical disorders** (e.g. hypopituitarism, thyrotoxicosis, diabetes mellitus, neoplasia, reticulosis, malabsorption)

Physical Examination Findings

- **CNS**: impaired cognition, poor concentration, seizures, syncope, depression, obsessive and compulsive behaviours
- **CVS**: bradycardia (30-40 beats/minute), hypotension (systolic <70mmHg), prolonged QTc, arrhythmia, mitral valve prolapse, pericardial effusion, cardiomyopathy (echocardiogram may be indicated)
- **GIT**: delayed gastric emptying and severe constipation, painful/distended abdomen, nutritional hepatitis
- **Renal**: nocturia, renal stones
- **Reproductive system**: prepubertal state: amenorrhoea, small ovaries and uterus, infertility, breast atrophy
- **Musculoskeletal system**: cramps, tetany, muscle weakness, osteopaenia, stress fractures
- **Peripheral nervous system**: peripheral neuropathy, impaired autonomic function

- **Dermatological**: dry skin, brittle nail, loss of head hair, increase in body hair (lanugo hair), pallor (anaemia), Raynaud's phenomenon: discolouration of fingers and toes, peripheral cyanosis
- **Hypothermia**

Laboratory Findings

- **Full blood count**: anaemia (usually normochromic but Fe/B12 deficiency is possible), leukopenia, ↓ESR,, thrombocytopenia, ↓complements
- **Electrolyte disturbances**: ↓ K, $Ca2^{+}$, Na, PO4, $Mg2^{+}$; liver and renal failure; ↑ amylase isoenzyme, ↓albumin, ↓glucose, ↓insulin, ↑lipid (due to ↓ oestrogen), metabolic acidosis (diarrhoea), metabolic alkalosis (vomiting)
- **HPA axis**: ↑CRH, normal ACTH, ↑cortisol
- **Other hormones**: ↓ FSH and LH, ↓ oestrogen, ↓ testosterone, ↓T4/T3, ↑ cortisol, ↑ growth hormone
- Brain pseudoatrophy, ↓ bone mineral density, abnormal EEGs

Management

Consider hospitalisation if:

- BMI < 13 kg/m2
- Heart rate < 40 bpm
- Failure of outpatient treatment
- High suicide risk

Average duration of hospitalisation is between 1-3 months. When admitted as an inpatient, the treatment programme adopted utilises both pharmacological and non-pharmacological methods:

- **Pharmacological**
    - No drugs have been proven to be effective in the treatment of AN
    - **Fluoxetine** has demonstrated improvement in mood and reduction in obsessions of checking body weight in some patients
    - Atypical antipsychotics (e.g. **olanzapine**) may reduce rigidity of thinking and increase patients' appetites
- **Psychological**
    - **Cognitive behavioural therapy (CBT)**: teach patients to monitor eating habits, develop skills needed to deal with interpersonal relationships, identify underlying negative automatic thoughts (e.g. 'I am too fat'), cognitive errors (selective abstraction, solely focusing on body weight to the exclusion of other aspects of life), challenge these thoughts accordingly through therapeutic process
    - **Interpersonal psychotherapy (IPT)**: more suitable for individuals who encounter interpersonal problems which are the main predisposing factor for their eating disorders; application of interpersonal inventory to allow the therapist to assess patient's interpersonal relationship; focus includes loss of roles, change in roles, role transition and interpersonal problems; may be relevant for patients

changing from one environment to another (e.g. changing from secondary school to university or from university to work)

- **Family therapy**: useful for patients who stay with a dysfunctional family; highly effective when AN serves a role to draw attention from family members, the patient is in a triangular relationship with other family members, and AN is the focus of the dysfunctional family; also useful for families which do not have a clear hierarchy and boundary among family members

Psychoeducation is an important aspect of treatment to inform patients about the benefits of achieving an adequate weight in order to reverse the effects of prolonged starvation.

Reasonable target weight gain would be to achieve an increment of about 0.5 to 1 kg per week.

Prognosis

- 1/3 of AN patients may attempt suicide or self-harm
- Mortality: 10%

Table 8.1 *Prognostic Factors in Anorexia Nervosa*

Poor Prognostic Factors	Favourable Prognostic Factors
• Relatively late age of onset • Presence of very severe vomiting and weight loss • Dysfunctional family • Extreme treatment avoidance • Longer duration of illness (especially long untreated illness) • Personality disorder • Male gender • Very low BMI	• Early onset • Absence of severe weight loss and serious medical complications • Supportive family • Good motivation to change

8.2 OSCE Grid

Video 8.1 *Mother of a girl with eating disorder*

Table 8.2 *OSCE Grid: Assessing Anorexia Nervosa*

Sally, a 15-year-old secondary school student with a two-year history of anorexia nervosa, is admitted to the hospital following a seizure after prolonged fasting. On admission, her BMI is 10 kg/m2 and her heart rate is 35 bpm.

Task: take a history from Sally to establish the aetiology and course of anorexia nervosa

A) Severity of AN symptoms				
A1) Dietary history	A2) Longitudinal weight history	A3) Weight loss and binge eating	A4) Body image distortion	A5) Medical complications
'Can you take me through your dietary habit on a normal day?' Enquire about the number of meals and content of food 'How long have you been eating in this way?' 'Where did you learn this dietary habit from?'	Take a history of weight e.g. highest, lowest and average weight in the past two years 'What is your ideal weight?'	Explore methods used e.g. avoidance of 'fattening' foods, self-induced vomiting, purging and excessive exercise Ask about binge-eating even if she presents with AN	Assess fixation on overvalued ideas (e.g. dread of fatness) and find out her self- imposed weight threshold 'How do you feel when you look in the mirror?' 'Your BMI is 10; how do you feel about that?' If patient still thinks she is too fat, gently challenge her belief and check her rationale	Explore common neuropsychiatric (e.g. slowing of mental speed, seizures), gastrointestinal (GI bleeding) and endocrine (amenorrhoea) complications, as well as severe weight loss, bradycardia and metabolic complications such as severe hypokalaemia or anaemia Explore relevant past medical history e.g. childhood obesity
B) Aetiology of AN				
B1) Predisposing factors	B2) Precipitating factors	B3) Maintaining factors	B4) Adolescent development	B5) School and peers
Family dysfunction (e.g. marital disharmony, sibling rivalry), enmeshment, child abuse and parenting rigidity may be present Explore family's views on food and weight	E.g. positive reinforcement of illness due to increased attention from parents preventing them from arguing	Identify role of family in reinforcing and maintaining her abnormal eating behaviour	Explore cognitive and psychosexual development Focus on common issues such as individuation	Explore interests and hobbies (e.g. ballet dancing, athletics) and academic performance Explore peer and romantic relationships (e.g. previous bullying/rejection due to body image)
C) Course of illness, comorbidity, risk assessment				
C1) Previous treatment	C2) Outcomes of previous treatment	C3) Insight	C4) Comorbidity	C5) Risk assessment
Explore both outpatient and	Focus on weight restoration and identify reasons	Patient may have impaired insight and deny illness;	E.g. depression, anxiety, OCD, substance abuse,	History of suicide attempts and

inpatient treatment previously offered Explore previous use of medication (e.g. antidepressants, antipsychotics) and adherence to psychotherapy sessions	resulting in failure (e.g. difficulties engaging with patient)	may be aggrieved by repeated attempts by family to seek help	perfectionistic personality Explore how comorbidities influence response to treatment	deliberate self-harm

8.3 OSCE

After assessing Sally, she is keen for hospitalisation.

Task: discuss immediate, short-term and long-term management with her parents.

Immediate management

1. Acknowledge the severity of Sally's situation (i.e. the significance of her low BMI and possible mortality), the doctor's duty of care and the need for her to remain in treatment as this would be in her best interests

2. Detailed assessment is required:
   - Necessary investigations: FBC, LFT, U/E/Cr, electrolytes, hormone profiles, fasting venous glucose to rule out DM, ECG and EEG
   - Mental state examination including cognitive assessment and further risk assessment should be conducted
   - Physical examination will focus on signs of AN

3. Inform consultant on-call and make referrals for co-management with other disciplines
   - Discuss with the consultant immediate management steps to adopt and whether oral, naso-gastric feeding or intravenous fluid replacement would be required.
   - Decision will also be based on the input from paediatricians, the risk of re-feeding syndrome and relative difficulties in administration if the patient is uncooperative

4. If feeding is commenced, it is important to watch out for refeeding syndrome
   - Refeeding syndrome refers to symptoms which occur when the patient is renourished (e.g. dependent oedema, aches and pains), electrolyte deficiencies (e.g. K, Mg2+,

PO4+), and cardiac decompensation (congestive heart failure) as a consequence of re-feeding
- The preferred re-feeding method should be designed by a dietician to increase daily caloric intake slowly by 200-300 kcal every 5 days until sustained weight gain of 1kg per week is achieved
- U/E/Cr will be checked every 3 days in the first 1 week and then weekly during the re-feeding period
- Diazepam will be administered via per rectal or IV route if seizure occurs

Short-term management

1. A weight target should be set (0.5 to 1kg per week); complete bed rest and regular nursing monitoring is advised

2. Safety issues such as risk to life through further starvation or suicide must be considered

3. Inpatient treatment programme will involve nutritional rehabilitation and a structured protocol based on operant conditioning model with a balance of positive and negative reinforcers:
   - Supervision and control of patient's eating behaviour and regular monitoring of her weight
   - Gradual reduction of laxative use
   - Psychological treatment should be provided with a focus both on eating behaviour and attitudes to weight and shape, and on wider psychosocial issues with the expectation of weight gain
   - Pharmacotherapy:
     - Antidepressants e.g. fluoxetine: treat comorbidities such as depression or obsessive compulsive features and improve outcome
     - Olanzapine to reduce rigidity of abnormal thoughts
     - Multivitamins, calcium and vitamin D are recommended but not hormonal treatment for osteoporosis

Long-term management

For post-hospitalisation management, the NICE guidelines recommend the monitoring of growth and development in adolescents. The NICE guidelines also recommend psychological treatment such as CBT, IPT or family interventions. The choice of psychotherapy is based on the patient and her parents' preferences. The aims of psychological treatment are to reduce risk, to encourage weight gain and healthy eating, to reduce other symptoms related to eating disorders and to facilitate recovery. The duration of psychological treatment is at least 12 months.

8.4 Bulimia Nervosa

Epidemiology

- **USA**
  - **Prevalence**: ~1-3% of general population
  - **Mean age of onset**: 16-18 years old
  - **Gender**: F:M = 10:1
- **Singapore**
  - **Prevalence rate** of eating disorders: 7.4%

Aetiology

- **Biological**
  - **Genetic**: risk of relatives of BN patients developing BN is 4 times higher than non-relatives; history of weight loss and strict diet is common
  - **Neurochemistry**: ↓5HT
- **Psychological**
  - **Preoccupation with weight and body shape** as a result of personal history of obesity and transgression of self-imposed dietary rules
  - **Poor impulse control**
  - **Binge eating** as a maladaptive way for coping with stress
- **Sociocultural**
  - Peer influence
  - Easy access to junk food

Diagnostic Criteria

- **ICD-10**
  - **Recurrent episodes of overeating**: at least twice a week over a period of 3 months
  - **Preoccupation with food** and **strong sense of compulsion to eat**
  - **Attempts to counter the "fattening" effects of food**: induction of vomiting, abusing purgatives, alternating starvation, use of drugs such as appetite depressants and diuretics
- **DSM-5**
  - **Recurrent episodes of binge eating**: eating in a fixed duration of time an amount definitely larger than what most individuals would eat in a similar situation; lack of control with regards to eating during these episodes
  - **Repetitive compensatory behaviours**: self-induced vomiting, usage of laxatives, or other medications to prevent weight gain
  - **Duration**: episodes occur at least once a week for 3 months.
  - **Self-esteem**: affected by self-evaluation of body weight and shape

Differential Diagnoses

1. Frontal lobe syndrome
2. Prader-Willi syndrome
3. Kleine-Levin syndrome
4. Gastrointestinal/brain tumours
5. Iatrogenic increase in appetite

Physical Examination Findings

- **CNS**: epilepsy
- **Oral and oesophagus**: parotid gland swelling, dental erosions, oesophageal erosions, Mallory-Weiss tear
- **CVS**: arrhythmias and cardiac failure leading to sudden death
- **GIT**: gastric perforation, gastric/duodenal ulcers, constipation, pancreatitis
- Tetany and muscle weakness
- **Russell's sign**: abrasions over dorsal part of the hand because fingers are used to induced vomiting

Laboratory Findings

- **FBC**: leukopenia and lymphocytosis
- **U&Es**: ↓ K+, Na+, Cl-, ↑bicarbonate
- ↑ serum amylase
- **Metabolic acidosis** due to laxative use
- **Metabolic alkalosis** due to repeated vomiting

Management

Most patients diagnosed with BN usually do not require acute inpatient hospitalization; outpatient treatment programs can be applied instead. Inpatient treatment would be warranted should there be additional associated psychiatric comorbidities which require immediat hospitalization for stabilization of symptoms.

Both pharmacotherapy and psychotherapy could be considered:

- **Pharmacological treatment**
    - **Antidepressants (SSRIs e.g. fluoxetine or fluvoxamine)**: help in reduction of binge eating and also associated impulsive behaviour; dosages used in treatment of BN may be higher than dosages used for treatment of depressive disorders
    - **Mood stabilizers**: evidence lacking but occasionally considered for use in BN associated with borderline personality disorder
- **Psychological treatment**
    - **Cognitive behavioural therapy (CBT)**: highly effective in BN; enables individuals to recognize underlying pathological behaviour patterns (e.g. bingeing as a way of coping) and distorted beliefs regarding self and body image; behaviour diaries can help to monitor the frequency of binging and help the patient to reduce its frequency and replace it with more adaptive behaviour

- **Interpersonal therapy (IPT)**: can be applied as described previously in AN

Prognosis

Low self-esteem and severe personality disorders are associated with poorer prognosis in BN.

Psychiatric Comorbidities

- Depression
- Anxiety
- Borderline personality
- Poor impulse control: self-mutilation (10%), promiscuity (10%), shoplifting (20%), suicide attempts (30%), alcohol misuse (10-15%)

8.5 Avoidant/Restrictive Food Intake Disorder

DSM-5 criteria state that eating abnormalities must be such that there must be persistent failure to meet appropriate nutritional and energy needs, in association with the following:

1. Marked weight loss
2. Significant deficiency in nutrition
3. Needing to depend on enteral feeding or oral supplements
4. Marked impairments in functioning

8.6 Binge Eating Disorder

DSM-5 criteria are as follows:

1. Recurrent episodes of binge-eating: eating in a fixed duration of time an amount definitely larger than what most individuals would eat in a similar situation. There is a lack of control with regards to eating during these episodes.

2. The binge-eating episodes are associated with the following:

    - Eating till feeling uncomfortably full
    - Eating more rapidly than normal
    - Eating large amounts even when not physically hungry
    - Eating alone due to feelings of embarrassment by how much oneself is eating
    - Feeling disgusted, and guilty after the episodes

3. These binge-eating episodes occur at least once a week for the past 3 months

8.7 Other Eating Disorders

Other specified feeding/eating disorders include:

1. Atypical Anorexia Nervosa
2. Bulimia Nervosa (of low frequency and limited duration)
3. Binge-eating disorder (of low frequency and/or limited duration)
4. Purging disorder

8.8 Metabolic Syndrome

Metabolic syndrome is an important topic in psychiatry as it can be caused by second-generation antipsychotics.

Table 8.3 *Diagnostic Criteria for Metabolic Syndrome*

Criteria	WHO	IDF	EGIR	NCEP-ATP III
	Diabetes + ≥ 2 of the following:	**Central obesity + ≥ 2 of the following:**	**Insulin resistance + ≥ 2 of the following:**	**≥ 3 of the following:**
Central obesity/waist circumference	Waist/hip ratio > 0.90 (men), > 0.85 (women); or BMI < 30 kg/m2	Waist circumference, based on ethnicity specific values If BMI > 30 kg/m2, waist circumference does not need to be measured	Waist circumference: ≥ 94 cm (men), ≥ 80 cm (women)	Waist circumference: > 102 cm (men), > 88 cm (women)
Triglycerides	≥ 1.7 mmol/L	> 1.7 mmol/L, or specific treatment for lipid abnormality	≥ 2.0 mmol/L, or treatment for lipid abnormality	> 1.7 mmol/L
High-density lipoprotein (HDL) cholesterol	< 0.9 mmol/L (men), < 1.0 mmol/L (women)	< 1.04 mmol/L (men), < 1.29 mmol/L (women), or specific treatment for lipid abnormality	< 1.0 mmol/L	< 1.04 mmol/L (men), < 1.29 mmol/L (women)
Blood pressure (systolic/diastolic)	≥ 140/90 mmHg	Systolic > 130 or diastolic > 85 mmHg, or antihypertensive treatment	≥ 140/90 mmHg, or antihypertensive treatment	> 130/85 mmHg

Criteria	WHO	IDF	EGIR	NCEP-ATP III
Fasting plasma glucose	Impaired	> 5.6 mmol/L, or previously diagnosed type II diabetes	≥ 6.1 mmol/L	> 6.1 mmol/L
Urinary albumin	Excretion rate ≥ 20 mcg/min, or albumin/creatinine ratio ≥ 30 mg/g	Not included	Not included	Not included

Source: Bloomgarden (2004)

It is of importance to know both the WHO and IDF criteria for metabolic syndrome.

Common risk factors for metabolic syndrome in chronic psychiatric illness:

- Excessive alcohol consumption
- Food imbalance and poor dietary habits
- Genetic predisposition
- Hormonal imbalances involving cortisol and leptin
- Second generation antipsychotics and their related side effects
- Sedentary lifestyle

Ranking of second-generation antipsychotics on the basis of relative risk of developing metabolic syndrome is as follows:

1. Clozapine (highest risk)
2. Olanzapine
3. Quetiapine
4. Risperidone
5. Aripiprazole
6. Ziprasidone (lowest risk)

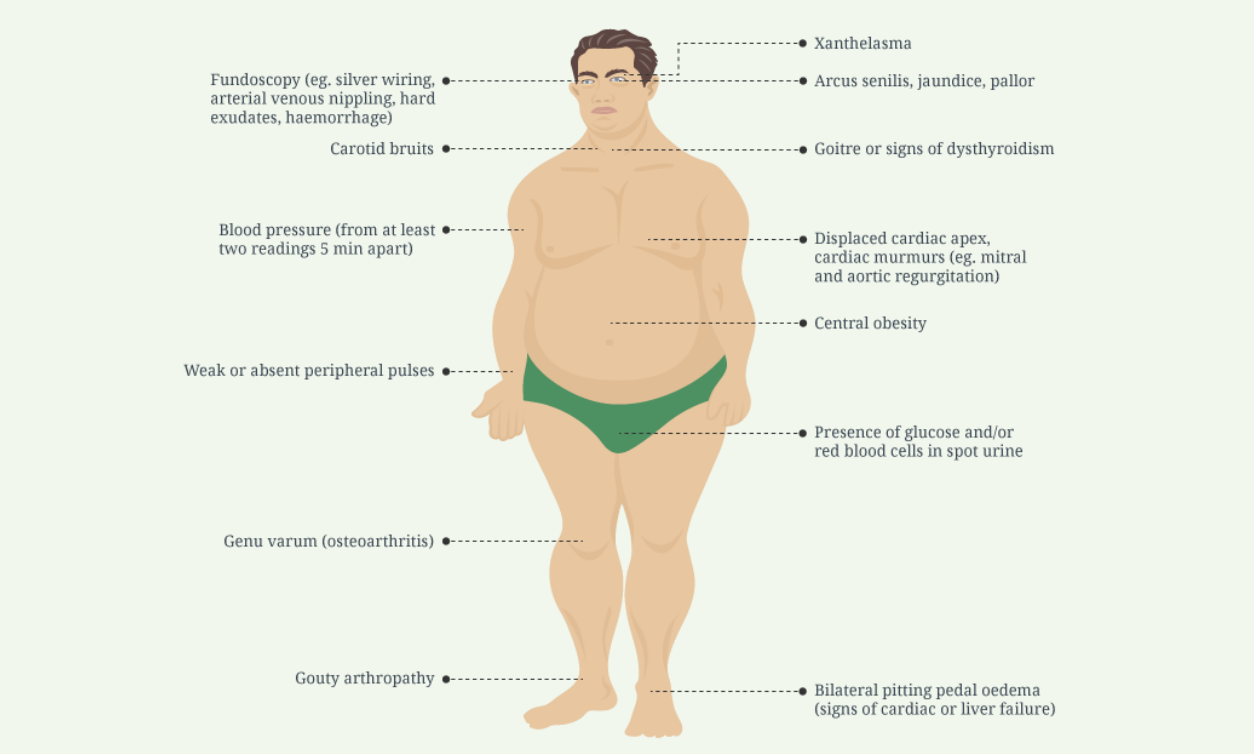
Table 8.4 *Monitoring Schedule for Metabolic Syndrome in Patients with Chronic Psychiatric Illnesses*

Time	Recommended Steps
Baseline	1. History: include previous cardiovascular diseases, family history, smoking, frequency and type of exercise, and dietary habits 2. Physical examination: include blood pressure, weight, waist circumference and body mass index 3. Laboratory tests: include fasting glucose, fasting lipids, total cholesterol, low-density lipoproteins (LDL), high-density lipoproteins (HDL), triglycerides (TG), alanine aminotransferase (ALT) and Î³-glutamyltransferase (GGT) 4. Psychoeducation: include advice on smoking cessation, careful food choices and physical activity

Time	Recommended Steps
	5. Choice of psychotropic medication: should be based on the cardiometabolic risk profile of each medication 6. Referral: refer to a primary care physician or specialist if there is at least one abnormal finding at step 2 and/or three abnormal results at step 3
Week 6	• Repeat steps 2, 3 and 4 • Monitor consumption of alcohol and cigarettes • Review the choice of psychotropic drugs in patients with more than 7% increase in body weight
Week 12	• Repeat steps 2, 3 and 4 • Monitor consumption of alcohol and cigarettes
Week 52	• Repeat steps 2, 3 and 4 • Monitor consumption of alcohol and cigarettes
After 1 year	• If all the laboratory results are within normal ranges, repeat steps 2, 3 and 4 annually

Source: de Hert, 2009; Oh, 2011

Figure 8.1 *Physical Examination of a Psychiatric Patient Presenting With Metabolic Syndrome*


Xanthelasma
Fundoscopy (eg. silver wiring, arterial venous nippling, hard exudates, haemorrhage)
Arcus senilis, jaundice, pallor
Carotid bruits
Goitre or signs of dysthyroidism
Blood pressure (from at least two readings 5 min apart)
Displaced cardiac apex, cardiac murmurs (eg. mitral and aortic regurgitation)
Central obesity
Weak or absent peripheral pulses
Presence of glucose and/or red blood cells in spot urine
Genu varum (osteoarthritis)
Gouty arthropathy
Bilateral pitting pedal oedema (signs of cardiac or liver failure)

Management

1. **Diet modification**: advise the patient to avoid saturated fat (e.g. red meat, egg yolks, fried food) and to eat food low in calories, fresh fruits and vegetables
2. **Encourage moderate exercise**: 30-40 minutes/day, 3-4x/week
3. **Set weight loss targets**: between each outpatient visit
4. **Control blood pressure**: beta-blockers; aim to achieve < 140/80 mmHg
5. **Optimise lipid levels**: diet modification or statis; aim to achieve fasting LDL cholesterol < 3 mmol/L, HDL cholesterol > 1 mmol/L and triglycerides < 20 mmol/L

Key Learning Points

- [ ] 1. Anorexia nervosa is clinically characterised by a triad of intentional self-induced weight loss, overvalued idea of distorted self-perception and hypothalamic-pituitary-adrenal axis disturbance, while bulimia nervosa is characterised by episodes of binge eating, preoccupation with food and compensatory purging behaviours.
- [ ] 2. Dietary history focusing on timing and contents of each meal in a typical day should be assessed in evaluation of eating disorders.
- [ ] 3. Hospitalisation in anorexia nervosa is indicated if BMI < 13 kg/m2, bradycardia < 40 bpm, failure of outpatient treatment or high self-harm/suicide risk.
- [ ] 4. In the local context, typical patients with anorexia nervosa are commonly high-achieving perfectionistic female students rather than the classical profile of ballet dancers or gymnasts seen in other countries.
- [ ] 5. Eating disorders are far less common in males compared to females but the former have a worse prognosis.
- [ ] 6. Inpatient treatment of anorexia nervosa should aim for a weight gain of 0.5-1kg/week whilst watching out for refeeding syndrome.
- [ ] 7. Cognitive behaviour therapy and interpersonal therapy are used in treatment of both anorexia nervosa and bulimia nervosa.
- [ ] 8. Depression and anxiety are important comorbidities in almost all psychiatric conditions, including eating disorders.
- [ ] 9. Both the WHO and IDF criteria are important in evaluating metabolic syndrome in psychiatric patients.

10. Modifiable risk factors such as blood pressure, glucose, lipids, obesity, diet, sedentary lifestyle and smoking should be addressed in management of metabolic syndrome.

Revision MCQs and MEQs

MCQ

1. A 20-year-old woman with eating disorder is referred for poor impulse control. Physical examination reveals calluses on the knuckles. What is this sign called?

a. Crichton-Browne sign
b. Hoover sign
c. Lombard sign
d. Russell sign
e. Waddell sign

Answer:
Russell sign refers to calluses on the dorsum of the hand that occur due to induced vomiting over an extended period of time. Russell sign is seen in patients with bulimia nervosa and anorexia nervosa. Additionally, there is a close relationship between bulimia nervosa and borderline personality disorder.

2. A 20-year-old woman suffers from anorexia nervosa. Her parents are concerned about her outcome. Which of the following factors indicates a poor prognosis based on the medical literature?

a. Early age of onset
b. Family history of anorexia nervosa
c. Female gender
d. Family history of bulimia nervosa
e. Later age of onset

Answer:
Later age of onset is a poor prognostic factor. Other poor prognostic factors include long duration of illness, severe weight loss, substance misuse and obsessive-compulsive personality.

3. A 28-year-old school teacher was referred by her GP for assessment of depression. She appears to be very thin but does not know her BMI. She insists that she was too fat in the past, which resulted in interpersonal problems. She eats three meals a day but is not able to describe her diet in detail. She denies excessive exercise but induces vomiting if she eats too much. She complains of amenorrhoea and alopecia. She is irritable throughout the interview and emphasizes that she suffers from depression but nothing else. She is only keen to continue fluoxetine given

by her GP but no other treatment. She emphasizes that she is in good physical condition and is able to teach. After the interview, the nurse measures her BMI and the result is 13 kg/m2. What is the most likely diagnosis?

a. Anorexia nervosa
b. Borderline personality disorder
c. Bulimia nervosa
d. Depressive disorder
e. Hypomania

Answer:
In clinical practice, it is not uncommon to encounter patients with anorexia nervosa minimising symptoms of eating disorder and attributing their low body weight to something else. It is often more useful to pay attention to objective signs such as low BMI and amenorrhoea to establish the diagnosis of anorexia nervosa.

4. A 20-year-old woman is found to have an enlarged parotid gland on physical examination. Which of the following diagnoses is likely?

a. Anorexia nervosa
b. Bulimia nervosa
c. Erotomania
d. Kleptomania
e. Trichotillomania

Answer:
Frequent self-induced vomiting in bulimia nervosa leads to reflux of gastric acid and causes inflammation in the parotid gland. Erotomania refers to delusion of love. Kleptomania is compulsive stealing. Trichotillomania refers to the tendency of hair pulling.

5. A 20-year-old woman suffering from anorexia nervosa presents with hypokalaemic alkalosis. Which of the following behaviours is most likely to contribute to this finding?

a. Binging
b. Exercising
c. Fasting
d. Inducing diarrhoea
e. Vomiting

Answer:
Self-induced vomiting contributes to hypokalaemic alkalosis.

MEQ

You are the resident in the Children's Emergency Department. A GP has referred to you a 14-year-old girl who has been losing weight in the past 4 months. In the last 4 months, she has become increasingly 'fussy' about her food, measures the calories she consumes and is 'obsessed with monitoring her weight'. Her parents cannot manage her at home as she refuses to eat. Her BMI is now 13. She has lost 18kg due to diet and uncontrolled exercising in the past 3 months. Her mood is stable and she does not have suicidal thoughts. Her ECG now shows a regular heart rate of 30/min, with some flat and inverted T waves.

1. What is the most likely diagnosis?

Answer:
Anorexia nervosa

2. What information would you ask for in this history to confirm the most likely diagnosis?

Answer:
History of amenorrhoea

3. List 3 common findings on physical examination (other than low weight) which can occur with her condition.

Answer:
Cyanosis, dehydration, lanugo hair, muscle atrophy, hyporeflexia, hypotension, peripheral neuropathy, reduced secondary sexual characteristics

4. Her parents ask to admit her for inpatient treatment. Give three reasons to support inpatient treatment in this case.

Answer:
Low BMI
ECG abnormalities
Rapid weight loss over a short period of time
Refusal to eat at home

5. She also induces vomiting. State one biochemical abnormality which is likely to be found.

Answer:
Hypokalaemia

EMIS

Eating Disorders

1. A girl tends to hide food in the cupboard, and also refuses to sit with others to have a meal. She has lost a lot of weight over the past 6 months. She used to be doing well in school, but recently her performance has been declining. She does not use anything to induce vomiting, but she exercises up to 3 times per day.

a. Lanugo hair
b. Dilated pupils
c. Constricted pupils
d. Xanthelasma
e. Goitre
f. Lemon on sticks appearance
g. Parotid swelling
h. Russell sign

2. A woman has a known history of eating disorder not otherwise specified and now comes into clinic vocalising a history of uncontrollable episodes of overeating, which usually result in her purging and vomiting. She claimed that she has been maintaining her weight, but has lost control over eating again. (May select more than 1 answer)

a. Lanugo hair
b. Dilated pupils
c. Constricted pupils
d. Xanthelasma
e. Goitre
f. Lemon on sticks appearance
g. Parotid swelling
h. Russell sign

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NICE guidelines for eating disorders http://guidance.nice.org.uk/CG9

NICE guidelines for antenatal and postnatal mental health http://guidance.nice.org.uk/CG45

Chapter 9
Psychiatric Emergencies

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9.1 Neuroleptic Malignant Syndrome

Prevalence

- Incidence: 0.1-0.2%; lower with second-generation antipsychotics
- No geographical variation

Risk Factors

- **Patient factors**
  - Younger age
  - Agitation
  - Physical exhaustion
  - Dehydration
  - Family history of NMS
  - Antipsychotic naïvety
- **Medication factors**
  - High dose of antipsychotics
  - Potent antipsychotics e.g. haloperidol
  - Antipsychotics given via intravenous or intramuscular routes
  - Multiple concurrent antipsychotic use
- **Underlying disorders/conditions**
  - Underlying medical illnesses
  - Catatonia
  - Lewy body dementia
  - Basal ganglia dysfunction
  - Head injury
  - Epilepsy
  - Learning disability
  - Low serum iron (iron plays a key role in dopaminergic function) o High CK level
- **Psychiatric comorbidities**
  - Substance abuse (LSD is associated with hyperthermia syndrome)
- **Environmental factors**
  - High ambient temperature and humidity

Neurochemistry

NMS is an idiosyncratic reaction towards antipsychotics caused by a sudden hypodopaminergic state which affects the hypothalamus. It results in hyperthermia, catatonia, autonomic dysfunction, rigidity and clouding of consciousness.

Diagnostic Criteria

Table 9.1 *Diagnosis of Neuroleptic Malignant Syndrome*

Criterion A	1. Muscle rigidity 2. Elevated temperature Associated with the use of antipsychotic medication
Criterion B	1. Altered consciousness 2. Mutism 3. Dysphagia 4. Diaphoresis 5. Tachycardia 6. Labile blood pressure 7. Tremor 8. Incontinence 9. Leucocytosis 10. Laboratory evidence of muscle injury: increase in creatinine kinase levels
Criterion C	Symptoms in Criteria A and B not due to another substance (e.g. phencyclidine), neurological or medication conditions (e.g. viral encephalitis)
Criterion D	Symptoms in Criteria A and B are not better accounted for by a mental disorder (e.g. mood disorder with catatonic features)

Both symptoms in Criterion A and four symptoms in Criterion B suggest a high probability of NMS if supported by clinical history.

Differential Diagnoses

1. CNS infection e.g. meningitis
2. Septicaemia
3. Serotonin syndrome
4. Intoxication of other drugs: lithium, cholinergics, MAOIs, amphetamines, anticholinergics
5. Lethal catatonia: prodrome of psychotic symptoms for 2-8 weeks, intense motor excitement for several days, leading to autonomic dysfunction, catatonia, stupor, coma and death)
6. Catatonia: both NMS and catatonia can lead to an increase in creatinine kinase; catatonia presents with echolalia, echopraxia, ambitendency and abnormal posturing unlike NMS
7. Heavy metal poisoning (thallium or arsenic)
8. Myocardial infarction
9. Heat stroke (during heat waves, mainly affects elderly in residential care)
10. Malignant hyperthermia: hypersensitive reaction to certain anaesthetics in genetically predisposed individuals
11. Tetanusinfection
12. Thyroidstorm
13. Acute intermittent porphyria

Relevant Investigations

- **FBC**: leucocytosis (>95%)
- **Disseminated intravascular coagulation (DIC) screen**: PT, APTT, INR and fibrinogen, peripheral blood film
- **U/E/Cr, LFTs, TFTs, ammonia level, ABG, iron levels** (low iron levels predict poor prognosis)
- **Creatinine kinase**: ↑ in both NMS and serotonin syndrome
- **Blood cultures**
- **Urinalysis** (to look for myoglobin)
- **Urine cultures**
- **CXR**
- **CT (brain)**
- **EEG** if seizure is suspected
- **Lumbar puncture** if CNS infection is suspected
- **Abdominal/pelvic CT** if abscess is suspected

Management

NMS is a clinical emergency.

- **Immediate**:
    - Stop antipsychotics
    - Supportive measures: bed rest, control hyperthermia with rapid cooling (tepid water spray, direct fluid replacement)
    - Consider ventilator support/intubation if patient has severe breathing difficulties
- **Definitive**:
    - **Pharmacological treatment**:
        - **Dopamine agonists**: bromocriptine 2.5mg TDS; may worsen underlying psychosis
        - **Dantrolene**: 50-75mg immediately then every 6 hours to a maximum dose of 10mg/kg/day (parenteral); inhibits ionised calcium release, used to treat malignant hyperreflexia; discontinue when symptoms resolve
        - **Benzodiazepines**: lorazepam (PO or IV) up to 8-24mg/day; GABA-mimetic activity may indirectly increase dopaminergic function in the basal ganglia
    - **Electroconvulsive therapy**:
        - Can treat both malignant catatonia and NMS
        - Patients usually respond after four sessions
- **Reintroduction of antipsychotics**:
    - Restart antipsychotics from a different class or those with low dopamine receptor affinity e.g. quetiapine, aripiprazole
    - Begin with a very small dose and uptitrate gradually with close monitoring of temperature, pulse and blood pressure

Prognosis

- **Life-threatening complications**: renal failure, respiratory failure
- **Mortality rate**: < 10%
- **Duration**: NMS can last from a few days to a month

9.2 Serotonin Syndrome

Prevalence

- 15% of people who take an overdose of a combination of SSRIs

Aetiology

- **Combination of medications**
  - Irreversible MAOIs (e.g. phenelzine) + SSRIs
  - Switching from one SSRI to another without an adequate washout period
  - Overdose of SSRIs

Neurochemistry

Serotonin syndrome is a clinical emergency due to the increase in 5-HT and the stimulation of $5HT_{1A}$ and $5HT_{2A}$ receptors.

Clinical Features

Triad of:

1. **Mental status change**: anxiety/ agitation to extreme confusion.
2. **Autonomic hyperactivity**: tachycardia, tremor, flushing, hyperthermia, excessive sweating.
3. **Neuromuscular abnormalities**: generalised hyperreflexia, clonus (ankle or ocular), myoclonus, rigidity

Initial symptoms include akathisia, agitation, tremor, tachycardia, autonomic instability, increased bowel sounds, diarrhoea and mydriasis.

Compared to NMS, serotonin syndrome has a more rapid onset and development, and causes less rigidity. Serotonin syndrome may lead to hyperkinesia.

Differentials and Investigations

Largely similar to those of NMS.

Management

Serotonin syndrome is a clinical emergency.

- **Immediate**:
  - Stop antidepressants
  - Supportive measures
- **Definitive**:
  - Benzodiazepines: lorazepam (PO or IV) as per NMS
  - Electroconvulsive therapy: indicated for patients who are severely depressed
- **Restarting antidepressants**:
  - May not be necessary to restart the offending agent causing serotonin syndrome

9.3 Suicide and Deliberate Self-Harm

Epidemiology

- **Trends**
  - Stable between 9.8-13.0/100,000 over the last five decades but risk within certain population strata has changed over time
  - **Age**: rates highest in elderly males despite declines in elderly and middle-aged males in recent years
  - **Race**: Chinese and Indians consistently higher than Malays; increase in female Malays and significant decrease in female Indians and Chinese between 1995 and 2004
- **Methods**
  - **Jumping from height (72.4%)**: more likely to be young, single, female, have had major mental illness
  - **Hanging (16.6%)**: more likely to be older, Indian, to leave a suicide note
  - **Poisoning (5.9%)**: more likely to be married, on antidepressants, have had previously attempt suicide, to leave a letter
- **Demographics**
  - **Younger people (10-24 years)**
    - **Suicide rate**: 6 per 100,000
    - **Gender ratio**: F:M=1:1
    - **Race**: higher among Indians
    - **Method**: jumping from height
    - **Triggers**: psycho social stressors
    - **Mental health service use**: associated with unemployment, previous suicide attempts, family history of suicide, more use of lethal methods, lack of identifiable stressor, less suicide notes
  - **Older people (> 60 years)**
    - **With past history of suicide attempts**: more likely to suffer from major mental disorders, encounter social problems in life, have received psychiatric treatment in the past, have presence of alcohol and antidepressant detected in the blood toxicology report at autopsy, be admitted to a mental hospital with gazetted wards

- **No past history of suicide attempts**: more likely to have pre-suicidal plan for the final suicide act, have received medical or surgical treatment in the past

Predisposing Factors

- **Biological**
  - **Serotonin (5HT)**: through estimates of 5-HT metabolites, 5HIAA (5-hydroxyindoleacetic acid), lower 5-HT levels were found in suicide attempters and in post-mortem brain tissue of persons who had committed suicide and in genetic association of family studies
  - **Genetics**: genetic factors accounted for 45% of variance in suicidal thoughts and behaviour
  - **Physical illness**: HIV/AIDS, malignancy (head and neck cancers), Huntington disease, multiple sclerosis, peptic ulcer, renal disease, spinal cord injury, SLE; pregnancy and puerperium have protective value and decrease suicide risk in women

Le Suicide

Written by 19th century sociologist Emile Durkheim, this book was the first methodological study of a social fact in the context of society, and explored differing suicide rates between Protestants and Catholics

- **Social**
  - **Durkheim**: in 1897, Durkheim suggested suicide results primarily from social factors; four types of suicide: egoistic (poor integration into society), altruistic (over integration into society e.g. political hunger strike), anomic (loosening bonds between people, e.g. in inner city), fatalistic (excessive regulation by society and no personal freedom, e.g. suicide of slaves).
  - **Cultural**: Gothic culture in the UK is associated with higher risk of deliberate self-harm
- **Others**
  - **SSRI-induced suicide**: no evidence of increased risk of suicide with SSRI usage in adults but a modest increase in risk in children and adolescents; more data is emerging that SSRIs may be safe to use in depressed children and adolescents as completed suicide is rare; doctors should monitor patients closely in the early stages as improvement in energy level may allow patient to carry out suicide
  - **Adolescent male suicide rates**: due to increase in incidence of alcohol and drug misuse
  - **Suicide pacts and internet**: suicide pacts refer to two or more persons agreeing to commit suicide together; suicide websites which teach people methods to commit suicide and blogs allow unknown people to exchange suicidal ideas and commit suicide together
  - **Suicide terrorism**: a result of religious fundamentalism; not psychiatrically ill
  - **Homicide following suicide**: committed by young men with intense sexual jealousy, depressed mothers, despairing elderly men with ailing spouses

- **Media coverage and copycat suicides**: charcoal burning has become a popular method of committing suicide in South East Asia with irresponsible media coverage which did not follow WHO guidelines
- **Access to firearms**: in countries with easy access to firearms, this is a common method to commit suicide; in countries where access is difficult, hanging and jumping from height are common method

Table 9.2 *Factors Associated with Repeated Suicidal Attempts*

Demographic Characteristics	• Separation/divorce • Low social class • Living alone • Poor social support • Unemployment
Psychiatric History	• Previous psychiatric treatment (inpatient or outpatient) • Alcohol and drug abuse • Past history of self-harm (especially if associated with hospital admission and following multiple episodes) • Family history of self-harm or suicide • Personality disorder (especially antisocial personality)
Personal Characteristics	• Impulsivity • Criminality • High levels of hostility • Refusal of help: lack of cooperation with aid agencies • Poor coping skills or problem- solving abilities • Hopelessness • High levels of intercurrent social stress (particularly relationship problems)

Deliberate Self-Harm

Predisposing/Precipitating Factors

- More common in young females aged between 15 to 24 years
- Relationship/interpersonal problems (e.g. arguments) are common precipitating factors
- Low socioeconomic class
- Poor impulse control, borderline personality

Definitions

- **Non-fatal Deliberate Self Harm**: "Deliberate non-fatal act known to be potentially harmful, or if an overdose, that the amount taken is excessive" (Morgan 1979)
- **Parasuicide**: "Behavioural analogue of suicide without considering psychological orientation towards death" (Kreitman 1977)
- **Attempted Suicide**: "Every act of self-injury consciously aimed at attempts to kill themselves, but acknowledging the gravity of the situation" (Stengel & Cook)

- **Deliberate self-poisoning**: ‘deliberate self-injury’ substituted for ‘attempted suicide’ because many patients ‘performed their acts in the belief that they were comparatively safe’ (Kessel and Grossman 1965)

Management

- **Adults**
  - For adults with insufficient capacity, offer interventions under common law if benefits outweigh consequence of not intervening
  - Discuss treatment options and consider patient’s preference if he or she has capacity
  - For adults who repeatedly self-poison, consider discussing the risks of self-poisoning with the patients and carers where appropriate; do not offer harm minimisation advice as there is no safe limit for overdose
  - For adults who repeatedly self-injure, consider giving advice on self-management of superficial injuries (e.g. providing tissue adhesive), appropriate alternative coping strategies, harm minimisation and dealing with scar tissue
  - Consider offering an intensive therapeutic intervention (greater access to a therapist, home treatment) combined with outreach to people who have self-harmed with high risk of repetition; the duration of intensive intervention is three months
  - Refer people with borderline personality disorder for dialectical behaviour therapy
- **Children and Adolescents**
  - All children and young people should be admitted into a paediatric ward under the overall care of a paediatrician and assessed fully the following day after obtaining consent from the young person or parents
  - If the young person is 14 years or older, consider an adolescent paediatric ward
  - During admission, the Child and Adolescent Mental Health services team should provide consultation for the young person, their family, the paediatric team, social services, and education staff
  - For young people who have self-harmed repeatedly, consider offering developmental group psychotherapy with other young people; this should include at least six sessions but can be extended by mutual agreement
- **Older people**
  - All acts of self-harm in people over the age of 65 years should be taken as evidence of suicidal intent until proven otherwise
  - Always consider admitting the patient for mental health assessment, risk and needs assessment; admission will allow monitoring of mental state changes and risk assessment

9.4 OSCE Grid

Miss C is a 22-year-old university student referred to you by her general practitioner after she took 30 tablets of paracetamol. She states that she lacks motivation in life. Life appears to be meaningless. Her existence is only postponing the inevitability of death. She has a history of repeated self-injury and she had two previous psychiatric admissions in which she discharging herself. She claims that she has felt this way throughout her life.

Task: perform a suicide risk assessment, and explore the underlying cause(s) for her suicidal ideation.

Table 9.3 *OSCE Grid: Suicide Assessment*

A) Risk assessment				
A1) Express empathy	A2) Current suicidal ideation	A3) Assess suicide plan	A4) Negative aspects of life	A5) Positive aspects of life
"I can imagine that you have gone through a difficult period. I am here to help you and listen to you."	"Do you wish that you were dead?" "Do you still have thoughts of ending your life? Are these thoughts intermittent or persistent?" "How often do you act on these ideas?" "How strongly are you able to resist these thoughts?"	Intent: "Did you intend to end your life by taking an overdose?" Plans: "Did you plan for this suicide attempt? How long have you been planning for it?" Methods: "Besides the overdose, did you try to harm yourself in any other way?" "Did you act alone or with others?" "Did you inform anyone prior to the suicide attempt?" "Did you try to avoid being discovered? Did you seek help?"	"Have you ever felt despair about things?" "Have you ever felt that life is a burden?" "Have you ever felt entrapped, hopeless or defeated?"	"Do you hope that things will turn out well?" "Do you get pleasure out of life?" "Can you tell me more about your support system?" "Do you have any spiritual support such as religion?"

B) Underlying causes				
B1) Current life stressors	B2) Developmental	B3) Existential crises	B4) Past attempts	B5) Psychosocial problems
E.g. adjustment to university life, study load, relationship problems	E.g. childhood physical abuse, separation from parents, parental marital discord, witnessing domestic violence, witnessing suicide in family members and developing post-traumatic stress disorder	"Do you feel isolated?" "How do you see the world? Do you feel the world is hostile and meaningless? Is suicide your final destiny?"	Take a history of self-harm and suicide attempts Explore common precipitating factors of previous suicide attempts	E.g. unplanned pregnancy, financial problems, poor coping mechanism
C) Psychiatric comorbidities				
C1) Depression	C2) Substance abuse	C3) Eating disorder	C4) Personality disorder	C5) Early psychosis/ schizophrenia
Explore depressive symptoms in detail (e.g. low mood, guilt, insomnia, anhedonia)	"Do you take recreational drugs to cope with life?" "Do you take alcohol or smoke?"	"How do you see your body image?" "Have you put yourself on any dietary restrictions?" "Have you ever binge-eaten?"	Assess traits of borderline personality e.g. chronic feelings of emptiness, emotional instability, impulsiveness	Assess presence of command hallucinations e.g. "Have you ever heard voices telling you to harm yourself?

9.5 Paracetamol Overdose

Paracetamol is the commonest reported poisoning agent since it is available without prescription. It is also a common co-ingestant which causes a significant number of morbidities due to hepatic injury.

- **Single acute overdose**: ingestion of more than 150mg/kg is considered to be potentially toxic
- **Repeated overdose**: more than 4g of paracetamol over 24 hours in adult or more than 90mg/kg over 24 hours in children may suggest potential toxicity

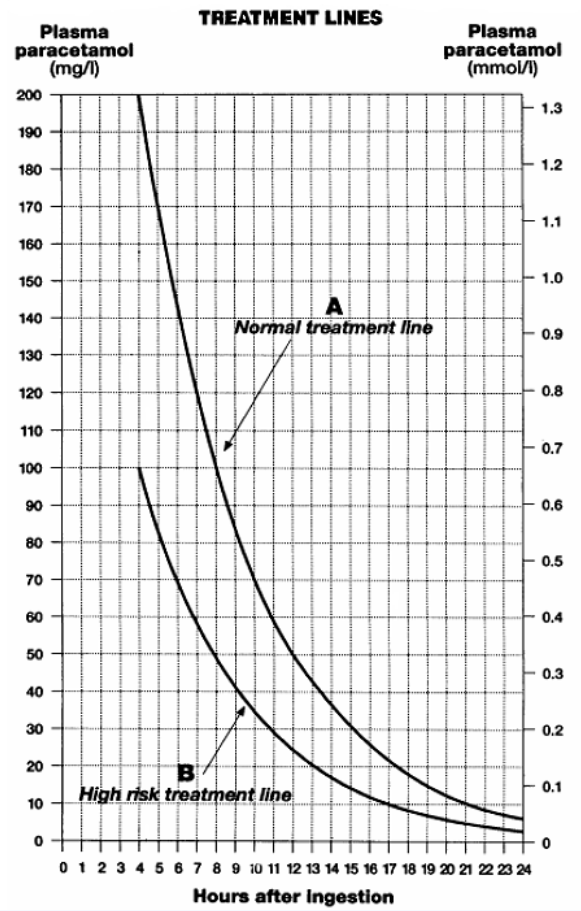
Since it takes around 4 hours for paracetamol levels to reach the peak serum concentration in overdose situations, the first drug level should be checked at least 4 hours (but not later than 15 hours) post-ingestion. Liver enzyme levels (aspartate aminotransferase), clotting profile, blood gas and lactate should be taken as baseline.

For initial management, gastric lavage is not a must for all patients; it is only indicated in those who present with massive overdose (more than 1g/kg) or those with severe toxic co-ingestant. Activated charcoal may help in decreasing the ongoing absorption when given within 1 hour post-ingestion.

N-acetylcysteine (NAC), which is a well-known effective antidote for paracetamol overdose, prevents the covalent binding of NAPQI (toxic metabolite of paracetamol) to hepatocytes. NAC is 100% protective when given within 8 hours of ingestion, and is known to be effective when given within 24 hours. In adults, it is given intravenously by an initial loading dose of 150mg/kg in 200ml D5 in 1 hour, followed by 50mg/kg in 500ml D5 over 4 hours and then a further 100mg/kg in 1000ml D5 over 16 hours.

In patients who receive NAC within 8 hours post ingestion, a 21-hour course provides a full protection, but for those who were started on NAC more than 8 hours post-ingestion, a continuous NAC infusion is recommended until liver injury resolves and paracetamol levels are not detectable. In such a scenario is it advisable to consult the Emergency Medicine toxicology team at your institution for further advice.

Figure 9.1 *Prescott Normogram*



9.6 Benzodiazepine Overdose

Benzodiazepine, zopiclone and zolpidem are commonly abused hypnotics worldwide. Death from pure overdose is relatively rare due to the good safety margin of these drugs. These two groups of hypnotics are similar in terms of presentation and management approach. Both act on the GABA receptor in neurons leading to central nervous system (CNS) depression. Overdose patients present with excess sedation, lethargy, incoordination, slurred speech and impaired cognitive function, but most patients are arousable and can maintain a patent airway.

In Hong Kong, there are some local case series of methaemoglobinemia after massive zopiclone (more than 100 tablets) ingestion. The methaemoglobinemia level peaks at 13-18 hours and may rise up to 90 hours post ingestion. Intravenous methylene blue was required in some cases.

Drug levels are not useful in management. Investigations for any undeclared co-ingestions, such as blood paracetamol levels and ECG to look for QRS (for any possible co-ingestions of sodium channel blocking agents e.g. tricyclic antidepressants) should be considered. Alternative medical causes for CNS depression should be ruled out in patients with deep coma.

Management is mainly supportive. Ensure that the patient is able to maintain a patent airway with adequate ventilation and oxygenation. Gastric lavage is rarely necessary, and activated charcoal should only be considered if the patient presents within 1 hour of ingestion and is able to maintain a patent airway, otherwise aspiration pneumonia will be a serious iatrogenic complication.

Flumazenil, a specific benzodiazepine antagonist, is not recommended for use routinely in every coma patient presenting with benzodiazepine overdose. It will precipitate convulsion and withdrawal symptoms in chronic benzodiazepine users and those with a known history of epilepsy. It may also unmask the toxicity of other pro-convulsant co-ingestions (such as TCA and anti-psychotics). Flumazenil should only be considered after a comprehensive assessment of patient's respiratory status. It is primarily used in patients with respiratory depression likely to require ICU admission with endotracheal intubation.

Key Learning Points

1. Neuroleptic malignant syndrome and serotonin syndrome can present similarly and should be differentiated based on aetiology; the former is associated with antipsychotics while the latter is associated with antidepressants.
2. The key difference in management of neuroleptic malignant syndrome as opposed to serotonin syndrome is the additional use of dopamine agonists/dantrolene in the former but not the latter.

3. The commonest profile of suicide in Singapore is an elderly Chinese male who lives alone and has poor social support.
4. Conversely, deliberate self-harm is commonest in young females.
5. Jumping from height is the commonest method of suicide in Singapore.
6. Approach to attempted suicide involves asking about events before the attempt, the attempt itself, and events after the attempt.
7. In paracetamol overdose, the first blood paracetamol level should only be taken at or after 4 hours post-ingestion and plotted on the Prescott normogram; drug levels taken before 4 hours cannot be interpreted in terms of management.
8. Attempts to neutralise ingestion of paracetamol in an overdose such as gastric lavage or activated charcoal and not necessary, and only effective within a short time period following ingestion.
9. N-acetylcysteine is the treatment of choice for paracetamol overdose, and can be started even before 4 hours post-ingestion in the event of massive overdose.
10. Flumazenil should not be routinely given in benzodiazepine overdose as the benzodiazepines may be suppressing seizure or effects of other drugs, and reversal may precipitate these adverse effects for which the treatment is again benzodiazepine.

Revision MCQs and MEQs

MCQ

1. A 20-year-old woman was given an intramuscular injection of clopixol acuphase. She seems to develop neuroleptic malignant syndrome (NMS). Which of the following clinical features is the least important to establish the diagnosis of NMS?

a. Difficulty in swallowing
b. Onset of symptoms occurs after one day
c. Hyperthermia
d. Incontinence
e. Labile blood pressure

Answer:
The symptoms of NMS may occur a few days or weeks after intramuscular administration of antipsychotic agent. Hence, onset is the least important criteria.

2. You are teaching the topic of depressive disorder to a group of medical students. They want to know what percentage of patients admitted to the university hospital will have recurrence and require further admission in long run without committing suicide. Your answer is:

a. 20%
b. 30%
c. 40%
d. 60%
e. 80%

Answer:
An old British study (Lee AS, Murray RM 1988) showed that approximately 60% of patients were re-admitted at least once. Only 20% recovered fully with no further episodes and 20% were incapacitated throughout or died of suicide.

MEQ

You are a resident working in the Emergency Department. A 25-year-old woman took 40 tablets of paracetamol to end her life.

1. State ten questions you would like to ask her to assess her current suicide risk.

Answer:
Did you take the overdose on impulse or did you plan for a long time?
Did you try to avoid discovery before you took the overdose?
Did you write a suicide note or send a text message/email before you attempted suicide?
Did you write a will or make arrangements for after your death?
Did you expect to die by taking 40 tablets of paracetamol?
Did you mix the paracetamol with alcohol?
Did you cut yourself or use other means to harm yourself?
Did you seek help or avoid seeking help after the overdose?
Do you feel remorseful of having attempted suicide?
Do you still want to die?
Apart from this incident, have you ever attempted suicide before?

2. State ten questions you would like to ask her to assess her current suicide risk.

Answer:
Suicide precautions/close monitoring

3. You would like to assess her mood. Name ten diagnostic criteria for depressive disorder based on DSM-IV-TR or ICD-10 criteria.

Answer:
Delusions (mood congruent)
Hallucinations (mood congruent, usually auditory)
Low mood
Low energy/tiredness
Low sexual drive
Pessimism/negative thinking/cognitive distortion
Poor concentration/attention
Poor appetite
Guilt
Suicidal thoughts or plan
Weight loss

4. After treatment in the medical ward, she is clinically stable. She is interested in taking antidepressants to treat her depressive disorder. Name one class of antidepressants which you would recommend as firstline and give one example of antidepressant under the class you have chosen.

Answer:
Selective serotonin reuptake inhibitors
Fluoxetine (Prozac), fluvoxamine (Faverin), escitalopram (Lexapro), sertraline (Zoloft) or paroxetine (Seroxat)

5. The patient is interested to try fluoxetine but wants to know about the side effects. Name six common side effects.

Answer:
Anxiety
Nausea
Diarrhoea
Headache
Insomnia
Sexual dysfunction

EMIS

1. Characteristic features of delirium tremens include all except:

a. Agitation
b. Clouded consciousness
c. Diarrhoea
d. Fluctuant blood pressure and pulse
e. Hallucination

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Chapter 10
Psychotherapies

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10.1 Interactions in Psychotherapy

Figure 10.1 *Interactions in Supportive Psychotherapy and Counselling*

Therapist supports defences, minimises anxiety and regression; dreams and transferences are not explored.

Therapists can perform the following:	Examples of counselling:
General techniques: listen and show concern, restore morale, suggestion may help improvement Giving advice and information on the condition and how to behave in a specific situation. **Affirmation**: confirmation of the validity of a prior judgment and/or behaviour **Praise** to reinforce certain behaviours and thoughts **Explanation** of medication compliance, family intervention, aspects of illness behaviour or alternative forms of psychotherapy **Observation**: attention to non-verbal behaviour, emotions and other patterns of communication displayed by patient	**Counselling**: giving advice, allowing patient to release emotion, providing knowledge of the disease. **Problem-solving counselling**: list problems, target one problem, consider solutions, try out solutions, review outcome **Interpersonal counselling**: identify relationship problems, consider ways to cope with difficulties **Crisis intervention**: focus on current problem, reduce arousal, allow expression of emotion, reassurance, consider solutions

10.2 Supportive Psychotherapy

Aim

Solely focus on the needs of the patient

Techniques

1. Therapist listens, allows emotional release, provides information and encourages hope
2. Therapist helps client to develop insight into problems as needed to improve adaptive responses
3. Therapist encourages patients to develop positive feelings to help maintain therapeutic alliance
4. Transference is not discussed in supportive psychotherapy

Indications

Most situations (e.g. adjustment issues, acute stress reaction, relationship problems etc)

Contraindications

1. When psychotherapy itself is contraindicated (e.g. advanced dementia, delirium, intoxication)
2. Poor motivation
3. When other psychotherapies are more appropriate (e.g. cognitive behaviour therapy for obsessive compulsive disorder)

Countertransference

Countertransference is the projection of unconscious feelings about important figures in the therapist's life onto the patient.

Transient and mild countertransference reactions that are easily recognised may have little impact on the therapy. Persistent and generalised countertransference may promote 'selection' or 'rejection' of certain types of clients to be taken on into therapy. More persistent or recurrent reactions may need to be closely examined under psychotherapy supervision. The clients' evocation of countertransference reactions may lead psychotherapists to reflect on and improve their awareness of their own countertransference vulnerabilities, causing them to deal with the countertransference by adjusting their practices accordingly, seeking further supervision from colleagues or psychotherapeutic assistance for themselves.

Failure to detect persistent and recurrent countertransference may lead to the following negative therapeutic consequences:

1. Failure to institute appropriate treatment
2. Sexual contact with the client

3. Hostility or abusiveness towards the client
4. Tolerating abusive behaviour by the client
5. Fostering undue dependency and interminable treatment
6. Over-interpretation as a result of projection of the therapist's own conflicts on to material presented by the client.

10.3 Defence Mechanisms

Table 10.1 *Defence Mechanisms*

Repression	Unconscious forgetting of painful memories and impulses
Regression	Reversion in functioning to a previous maturational standpoint
Denial	Refusal to consciously acknowledge events or truths that are obvious
Projection	Attribution of one's own unacceptable ideas or impulses to another person
Projective Identification	Being changed by projection of a thought, belief or emotion by someone else such that one begins to behave as though actually characterised by those thoughts or beliefs which have been projected
Reaction Formation	External expression of attitudes and behaviours which are the opposite of unacceptable internal impulses
Displacement	Transferral of emotional response toward a particular person, event, or situation to another where it does not belong but carries less emotional risk
Rationalisation	Justification of behaviour or feelings with a plausible explanation after the event, rather than examining unacceptable explanations
Sublimation	External expression of unacceptable internal impulses in a socially acceptable way Regarded as a healthy defence mechanism

Table 10.2 *Roles of Defence Mechanisms in Psychiatric Disorders*

Schizophrenia	1. **Splitting** between internal world and reality due to breakdown of ego boundaries 2. **Projection** of persecutory experience and fear of annihilation to objects in the external world
Depression/Loss	1. **Denial** of grief reaction toward the lost object, status or person 2. **Introjection** of anger onto oneself
Bipolar disorder	1. **Mania** is a defence against depression and denial of depression 2. **Manic defence** is used in narcissistic personality disorder
Anxiety disorder	1. **Denial** of anger and destructiveness 2. **Projection** of fear to the danger of the external world
Phobias	1. **Isolation** of unconscious fears 2. **Displacement** of fear onto an external object
Obsessive Compulsive Disorder	1. **Projection** of unconscious wish to damage onto an external object (e.g. dirt) 2. **Undoing** of obsessive thoughts through compulsive behaviours 3. **Reaction formation** to unconscious wish of disorganisation through obsession for order

Eating Disorder	1. **Denial** of bodily needs to eat, have menstruation and sexual development in anorexia 2. **Displacement** of fear and craving of intimacy onto food in bulimia

10.4 Psychodynamic Psychotherapy

Aims

The main aim of psychodynamic psychotherapy is to enable clients to improve their self-understanding and enabling them to engage in a reflection of themselves. The therapeutic process enables clients to develop better tolerance for frustration, and also helps to increase their awareness of their underlying maladaptive defence mechanisms that would require modification. Therapy aims to help them improve their interpersonal relationships and also helps them cope with their personal symptoms.

Indications

Commonly used for individuals with depressive and anxiety related disorders, or for individuals who have had experienced childhood abuse and trauma or who are dealing with relationship and personality problems. Psychodynamic psychotherapy requires clients to have adequate ego strength and possess abilities to form and sustain relationships. More importantly, clients must be motivated to change, and receptive to psychological therapy.

Contraindications

Individuals with schizophrenia, tendencies for serious self-harm, or addiction related problems are not suitable for this modality of therapy. Those with extremely poor insight into their own conditions are also excluded.

Techniques

- Establish working alliance where the client and therapist agree to work on an emotional or psychological problem
- Free association
- Focus on identified conflict
- Development of therapeutic alliance
- Transference interpretation
- Working through involves drawing previous maladaptive patterns or defences to conscious awareness
- Enactment refers to playing out psychological phenomena such as regression in a safe setting to facilitate understanding
- Containment of anxiety
- Resolution of conflicts and avoidance of maladaptive defences
- Addressing termination issues
- Techniques used in supportive psychotherapy may be appropriate at times

Figure 10.2 *Interactions in Psychodynamic Psychotherapy*

Therapist confronts defences, analyses anxiety, transference and allows regression. Dreams and transferences are explored.

Therapeutic alliance: an agreement between patient and therapist to work together on psychological problems with patient's active commitment.

Therapists can perform the following:	Phenomena associated with patient:
Clarification: therapist wants to check whether his or her understanding is correct and help patients to recognise repetitive patterns in patient's life. **Interpretation**: statements made by the therapist to help explain the patient's thoughts, feelings, behaviours or symptoms. **Empathetic validation**: therapist puts himself or herself into patient's shoes and tries to understand patient's inner state. **Countertransference**: involves unconscious emotional needs, wishes or conflicts arising from the therapist's prior relationship experiences being evoked by the patient during psychotherapy. **Observation** of non-verbal behaviour.	**Suitability**: 1. Curiosity about self and wish to understand 2. Capacity to maintain an area of objectivity about oneself 3. Being psychologically mined 4. Capacity to enter into a relationship and tolerate frustration 5. Not suffering from active addictions or psychotic symptoms **Transference**: patient unconsciously relates the therapist to someone from her past. **Resistance**: patient is ambivalent about getting help and may oppose attempts from the therapist to help. This may manifest in the form of silence, avoidance or absences. These can reveal a great deal about significant relationships in the past.

Phases

The therapist engages in a discussion and clarification of the current problem when therapy commences. An exploration into the nature and the origins of the problem is undertaken.

Therapeutic alliance is established between the therapist and the client, and the therapeutic relationship thus formed and enables the identification and confrontation of defences. Underlying unconscious motives are identified during therapy itself and subjected to interpretation. The therapist helps the client in working through and resolves existing conflicts. Once that is achieved over several sessions, the therapy is terminated.

Negative reactions

- **Acting out**: poor containment of strong feelings triggered by the therapy (e.g. anger towards the therapist)
- **Acting in**: exploration of therapist's personal and private information
- **Negative therapeutic reaction**: unexpected deterioration in the face of apparent progression (e.g. premature termination of therapy without explanation after apparent engagement)

Termination of psychodynamic therapy

Termination is a point where the therapeutic endeavour comes to a defined end date set by the contract in the beginning; it is often a complex and powerful event. It can be examined at the intrapsychic, behavioural, cognitive, interpersonal and social levels (e.g. legal implications).

10.5 Cognitive Behavioural Therapy

Cognitive Therapy

Beck proposed that negative thinking in depression originates in earlier assumptions and plays central roles in the maintenance of depressive symptoms. Beck's cognitive model of depression includes the effect of early experiences, core beliefs, assumptions, cognitive distortions, automatic thoughts and the negative cognitive triad. Depression can be treated by modifying one of the components of Beck's cognitive model.

Behaviour Therapy

Mowrer's two-factor model states that fear of specific stimuli is acquired through classical conditioning and that clients try to reduce fear by avoiding the conditioned stimuli through operant conditioning. Ayllon and Azrin's token economy model is a ward environment where reinforcers were applied to systematically change clients' behaviour.

Aim

To improve emotion by identifying and changing dysfunctional thoughts and maladaptive behaviours through a present-oriented, time limited and highly structured therapy.

Indications

Mood disorders, anxiety disorders, eating disorders, phobias, schizophrenia (target at delusions and hallucinations, coping enhancement, enhance adherence to treatment and relapse prevention), personality disorders (refer to dialectical behavioural therapy), substance abuse and consultation liaison setting (chronic pain, chronic fatigue, physical illnesses)

General principles

CBT deals largely with the here and now; it is a time-limited therapy which involves psychoeducation, engagement and collaboration between the therapist and the client

Techniques

- Identify negative automatic thoughts
- Identify maladaptive belief and rate its strength
- Restructure maladaptive belief
- Formulate alternative positive belief
- Rate impact of maladaptive belief on emotion
- Rate impact of new belief on emotion

Phases

- **Session 1-2**: assessment via socratic questioning (the use of questions to reveal the self-defeating nature of the client's negative automatic thoughts), identify cognitive triads (automatic thoughts, cognitive distortion, faulty assumptions)
- **Session 3-4**: Case formulation, explain CBT model
- **Session 5-7**: Cognitive therapy (keeping diaries and homework monitoring to look for cognitive errors, reattribution by reviewing evidence, challenging cognitive errors, cost benefit analysis, forming action plans, overcoming resistance)
- **Session 8-10**: Behavioural therapy (identification of safety behaviours, entering feared situation without safety manoeuvres, applying relaxation techniques, activity scheduling, assertiveness training, reviewing results)
- **Session 11-12**: Relapse prevention, termination

Methods of measurement used in CBT include direct observation, physiological measures, standardised instruments and self-reporting measures such as the Beck Depression Inventory, Beck Anxiety Inventory and Fear Questionnaire.

10.6 Dialectical Behavioural Therapy

Indications

Borderline personality disorder (BPD), repetitive self-harm

Techniques

- **CBT**
- **Dialectical thinking**: advise the client not to think linearly, and that truth is an evolving process of opposing views rather than extremes
- **Zen Buddhism**: emphasize wholeness, see alternatives and engulf alternatives
- **Use of metaphors**: enhancing effectiveness of communication, discovering oneâ€™s own wisdom and developing therapeutic alliance.

Components

1. Individual sessions: 45-60 minutes on a weekly basis, to review diary cards in the past one week and discuss life threatening behaviours
2. Skills training group by a trainer: weekly group for 2 hours, didactic in nature and manual-based
3. Brief out-of-hours telephone contact as part of treatment contract
4. Weekly consultation group between the individual therapist and the skills trainer

10.7 Interpersonal Therapy

Indications

Depressive disorder (equally effective as CBT), eating disorder (bulimia nervosa), interpersonal disputes, role transition, grief and loss

Techniques

- Create a therapeutic environment with meaningful therapeutic relationship and recognize the client's underlying attachment needs
- Develop an understanding of the client's communication difficulties and attachment style both inside and outside the therapy
- Identify the client's maladaptive patterns of communication and establishment of insight; the therapist can adopt three stances - neutral stance, passive stance and client advocate stance
- Assist the client in building a better social support network and mobilise resources

10.8 Family Therapy

Commonly encountered family problems and strategies to resolve include:

- **Task accomplishment problems (e.g. developmental tasks)**: identifying the task, exploring alternative approaches, taking action, evaluating and adjusting
- **Communication problems and triangulation**: introduction of humour, demonstration of warmth and empathy, role play, modifying both verbal and non-verbal communication
- **Role problems (e.g. family scapegoat, parental child)**: identify problems and redefine roles; the same-sex parent functions as primary programmer and disciplinarian to promote maximum ego development by setting limits and higher level goals; the

opposite-sex parent functions as the facilitator or mediator within the triangular relationship to correct inappropriate parenting from the same sex parent

- **Behaviour control problems (e.g. conduct disorder in a child)**: engage family to deliver BT in home environment
- **Boundary issues between family members (e.g. enmeshment)**: promote communication and emotional interchange in disengaged relationship; create necessary separation and independence in case of enmeshment
- **Suprasystem problems (e.g. high crime rate in neighbourhood affecting the family)**: strengthen boundary between the family and the suprasystem; work with extended family and social agencies

10.8.1 Structural Family Therapy (Minuchin)

Structural family therapy identifies the set of unspoken rules governing hierarchy, sharing of responsibilities and boundaries. The therapist will present these rules to the family in a paradoxical way to bring about changes. The therapist is actively in control of proceedings.

10.8.2 Systemic Family Therapy

Milan associates often involve more than two therapists working in a team to maintain the systemic perspective; one therapist is always with the family while the team observes through the one-way screen or video camera; the team offers input to the therapist via telephone or during intersession breaks to discuss the family system; there are pre- and post-session discussions

Reframing an individual's problem as family problem (e.g. daughter's borderline personality may be reframed as a parental problem in providing care to the child); an internal problem can be reframed as an external problem if there is unproductive conflicts in the family which exhaust everyone. (e.g. reframing 'the family is under the influence of anger' as opposed to 'an individual member is an angry person')

Exploring coherence and understanding the family as an organised coherent system

Circular questioning is used to examine perspective of each family member on inter-family member relationship; aims to discover and clarify conflicting views; hypotheses can be formed from the conflicting views and change can be proposed

10.8.3 Strategic Family Therapy

Strategic family therapy uses a complex plan rather than a simple directive to produce change in the family. It employs the following techniques:

- **Positive connotation**: a form of reframing by ascribing positive motives to the symptomatic behaviour
- **Metaphors**: allow indirect communication of ideas. (e.g. relationship metaphors use one relationship between therapist and one family member as a metaphor for another relationship; metaphorical object refers to the use of a concrete object to represent abstract ideas such as a blank sheet of paper in an envelope to represent family secrets)
- **Paradoxical interventions**: used when direct methods fail or encounter strong resistance in some family members; the therapist will reverse the vector (i.e. rather than a top-down approach from the parents, a bottom-up approach from the child to the parents is allowed) and disqualify anyone who is an authority on the problems including the parents (e.g. children are allowed to challenge the parents and undesired behaviour is encouraged; paradoxically, change and improvement will take place as family members cannot tolerate the paradoxical pattern
- **Prescribing family rituals**: rituals refer to membership, brief expression and celebration. (e.g. the therapist passes a metaphorical object to the family and any family member can use this object to call for a meeting at home); ritual prescription refers to setting up a timetable which assigns one parent to take charge on an odd day and a child to take charge on an even day and is useful for families with parental children
- **Other strategies**: include humour, getting help from a consultation group which observes through the one way mirror to offer advice, debate among family members

10.8.4 Eclectic Family Therapy

Eclectic family therapy concentrates on the present situation of the family and examines how family members communicate with one another. It is flexible and allows time for the family to work together on problems raised in the treatment. It is commonly used in adolescents and their families.

10.9 Group Therapy

Milieu Group Therapy: Main developed therapeutic community where the whole community (e.g. the ward) is viewed as a large group. **Rapaport** described four characteristics in milieu GT: **democratisation** (equal sharing of power), **permissiveness** (tolerance of others' behaviour outside the setting), **reality confrontation** (confront with the views from others) and **communalism** (sharing of amenities).

Supportive Group Therapy: clients with chronic psychiatric disorders such as schizophrenia attend a day hospital with GT; involves empathy, encouragement and explanation (e.g. Schizophrenia Fellowship)

Outpatient Group Therapy: may involve self-help group targeting homogenous group of clients focusing on one disorder (e.g. for anxiety disorders or AA); short term, involves direct didactic instruction

Formal Group Therapy:

Figure 10.3 *Formal Group Therapy*

Exclusion criteria	Inclusion criteria	Advantages of group therapy
Clients who are brain damaged, paranoid, severely narcissistic, hypochondriacal, acutely psychotic or sociopathic	1. Long standing psychological problems 2. Require careful selection	1. Reduction of cost 2. The context of the group may give members value and a sense of group identity to assist them to cope with current problems in life

Role of therapist

1. The therapist can draw heavily upon a group setting to exercise the full range of therapeutic skills while the group therapy reduces the chance of intense transference reactions from the members.
2. The therapist may have particular inclinations and motivations (e.g. past experience of alcohol misuse in an AA groups).
3. The therapist can encourage a combination of individual and group therapy. This will positively integrate these two forms of therapy for maximal benefit.

Therapeutic process (Yalom's 11 therapeutic factors):

Early stage	Middle stage	End stage
1. **Instillation of hope**: sense of optimism about progress and improvement. 2. **Universality**: one individual's problems also occur in other members and the member is not alone	4. **Altruism**: One member feels better by helping other members and sharing their solutions. 5. **Corrective recapitulation of the primary family**: the group mirrors one's own family and provide a	9. **Group cohesiveness** occurs after inter-member acceptance and understanding. This will lead to the sense of safety and containment of negative feelings. 10. **Catharsis**: Member feels encouraged and supported

Early stage	Middle stage	End stage
3. **Information giving**: member will receive information on his or her illness as well as and problems faced by the others	chance for self-exploration of past family conflicts through this process. 6. **Improved social skills** by social learning 7. **Imitative behaviour** by vicarious learning or observation of others 8. **Interpersonal learning** by corrective experience in social microcosm.	by expressing emotionally laden materials. 11. **Existential factors**: after group therapy, member has more self - understanding and insight in responsibility and capriciousness of existence.

10.10 Couple Therapy

Couple therapy involves the therapist (or sometimes two therapists) seeing two clients who are in a relationship. It aims to sort out interpersonal and marital/partnership difficulties. Couple therapy works on issues such as grief in a couple and/or sexual problems. Couple therapy follows one of the following psychotherapeutic models: CBT (identifying reinforcement of undesirable behaviour in the couple), psychodynamic (understanding one's own emotional needs and how to relate to the needs of the partner), transactional (behaviours are analysed in terms of the child, adult and parent within the client and how the client reacts with the partner in the relationship) and family-based therapies.

Techniques

- **Reciprocity negotiation**: the couple develops ability to express their offers and understand the partner's requests; promotes exchange of positive behaviours and reactions
- **Communication training**: encourages mutual exchange of emotional messages
- **Structural moves**: experiment of disagreement (focus on a topic in which one partner always dominates while the other habitually gives in to avoid disagreement; helps the passive partner to express an opinion forcefully and the other to value the expression); role reversal (helps one partner to understand the viewpoints and experiences of the other)

Therapists need to consider the following issues before arranging couple therapy:

- **Therapist-related issues**: Age and life experiences of the therapist are essential as couples may look for therapists who are married or who have been married. The gender of the therapist plays a key role as the therapist may identify with the same sex client. Culture and religious background of the therapist in relation to the background of the couple should be considered. Therapists need to monitor their own countertransference as

otherwise, there is a risk they may experience rescue fantasies or over- identification with the client.

- **Therapy-related issues**: The relationship to other on-going therapies such as individual psychotherapy should be considered as well as confidentiality and neutrality between the couple and therapist.
- **Couple-related issues**: It requires motivation from both partners to attend the session and it is often a challenge to establish therapeutic alliance with both partners.

10.11 Eye Movement & Desensitisation Reprocessing

EMDR is indicated for post-traumatic stress disorder. EMDR focuses on traumatic experiences and the associated negative cognitions and affective responses. The aim is to desensitise the individual to the affective responses. This is accompanied by bilateral stimulation by inducing rapid eye movement as the client is asked to follow the regular movement of the therapist's fore finger.

The procedural phases of EMDR include:

1. Assessment of target memory of image
2. Desensitisation by holding the target image together with the negative cognition in mind and bilateral stimulation continues until the memory has been processed with the chains of association
3. Installation of positive images
4. Scanning of body to identify any sensations
5. Closure and debriefing on the experience of the session

10.12 Grief Counselling

Grief counselling allows clients to talk about the loss, to express feelings of sadness, guilt or anger and to understand the course of the grieving process. This will allow the client to accept the loss, work through the grief process and adjust to one's life without the deceased.

10.13 Motivational Interviewing

Indications

Enhance motivation to quit substance misuse or other forms of addiction (e.g. internet, gambling)

Techniques

1. Express empathy toward patient's substance abuse with reflective listening

2. Roll with resistance and understand why patient is reluctant to give up a substance or a habit
3. Develop discrepancy between one's addiction and goals
4. Support self-efficacy to quit a drug or bad habit and provide a menu of treatment options

10.14 Mindfulness Therapy

Mindfulness is largely a cognitive and behavioural program using a combination of:

- Mindfulness meditation
- Body awareness
- Yoga

It aims to help people become more mindful and reduce stress.

Revision MCQs and MEQs

MCQ

1. A 25-year-old man is seeing a male psychologist for dynamic psychotherapy. He feels very angry with the male psychologist as he finds that the male psychologist is exerting his authority like his abusive father. The phenomenon is known as:

a. Acting out
b. Boundary violation
c. Countertransference
d. Transference
e. Resistance

Answer:
This phenomenon is known as transference because the patient unconsciously relates the therapist to someone from his past (his abusive father).

2. A 25-year-old man is seeing a male psychologist for dynamic psychotherapy. The therapist does not want to see the patient because he is quite narcissistic. This patient reminds the therapist of previous narcissistic patients who lodged complaints to the Quality Improvement Unit (QIU) of the hospital. The phenomenon is known as:

a. Acting out
b. Boundary violation
c. Countertransference
d. Transference

e. Resistance

Answer:
Countertransference involves unconscious emotional needs, wishes or conflicts (i.e. complaints to QIU) arising from the therapist's poor relationship experiences being evoked by the patient during psychotherapy.

3. You are seeing a 50-year-old man who presents with cirrhosis as a result of chronic alcohol dependence. During motivational interviewing, he defends his chronic drinking habit claiming that he needs alcohol to relax himself. He told his wife alcohol is good because he does not need to go out and that he saves money by drinking the whole day. Which of the following defence mechanisms does he manifest?

a. Denial
b. Displacement
c. Rationalisation
d. Splitting
e. Victimisation

Answer:
He justifies his alcohol dependence with a plausible explanation (e.g. relaxation) after the event (e.g. cirrhosis), rather than examining unacceptable explanations.

MEQ

A 25-year-old male teacher presents with low mood, poor sleep, poor appetite and negative thoughts. He has suffered from depression for 6 months. He works as a teacher. He received good appraisals in the past few years. As a result of depression, he feels that he is useless and he is not competent to be a teacher although his head of department is very supportive of him to seek treatment and get well. He admits that he has problems with his colleagues. You have advised him to take antidepressants but he worries about side effects. He is interested in psychotherapy.

1. Name 3 types of psychotherapies which may be suitable for him.

Answer:
Supportive psychotherapy
Problem-solving therapy
Cognitive behaviour therapy
Interpersonal therapy

2. He is interested in cognitive behaviour therapy (CBT). He wants to know the specific technique in cognitive therapy which helps him to tackle depression. Your answer is:

Answer:
Cognitive therapy involves gathering information from a dysfunctional thought diary. The therapist uses the diary to identify cognitive bias and negative automatic thoughts. The therapist then helps the patient to develop capacity to challenge such negative thoughts and cognitive distortions.

3. He wants to know the specific technique in behaviour therapy which helps to tackle depression. Give one example of this.

Answer:
Activity scheduling: the patient is advised to plan a schedule to engage himself in activities to prevent withdrawal which perpetuates depression

4. He wants to know the number of sessions required for CBT. Your answer is:

Answer:
12 to 16 sessions

5. He worries that he will be busy with work in the near future. How often does he need to seek a psychologist for CBT?

Answer:
Ideally he should see a psychologist every week for 3 to 4 months. He can see a psychologist every 2 weeks if he is busy and the duration of CBT will be prolonged to 6 months to one year.

EMIS

LearningTheories/Conditioning

1. David has just completed his course of chemotherapy. Usually, he feels nauseated on entering the hospital grounds, but now he finds that over the period of several months, during which he no longer receives any treatment, the nauseated feelings have diminished.

a. Aversive conditioning
b. Classical conditioning
c. Conditioned response
d. Extinction
e. Generalisation
f. Operant conditioning
g. Punishment

2. In order to ensure Peter is cooperative with his regular doctor’s checkup, his parents by him a new toy every time he attends a session.

a. Aversive conditioning
b. Classical conditioning
c. Conditioned response
d. Extinction
e. Generalisation
f. Operant conditioning
g. Punishment

3. There is a new pet dog in the family which barks quite frequently without triggers. The owners have decided to apply an aversive stimulus to the dog every time it barks for no reason.

a. Aversive conditioning
b. Classical conditioning
c. Conditioned response
d. Extinction
e. Generalisation
f. Operant conditioning
g. Punishment

Defence Mechanisms in Psychoanalysis

1. Patient A has a long-standing alcohol addiction. He has told his therapist that he is keen to give up his addiction only if he can find a job which he is able to enjoy.

a. Death wish
b. Denial
c. Displacement
d. Humour
e. Idealisation
f. Identification
g. Projective identification
h. Rationalisation
i. Repression
j. Reaction formation

2. An employee of a multinational company has long been very frustrated with his boss, who thinks that he is bossy and incompetent. Recently, he has changed his attitude by going the extra mile and trying to be helpful to his boss.

a. Death wish
b. Denial
c. Displacement
d. Humour
e. Idealisation
f. Identification

g. Projective identification
h. Rationalisation
i. Repression
j. Reaction formation

3. Even though they broke up 2 weeks ago, a woman still continues to telephone her boyfriend. She continues to talk about him in front of her colleagues as well.

a. Death wish
b. Denial
c. Displacement
d. Humour
e. Idealisation
f. Identification
g. Projective identification
h. Rationalisation
i. Repression
j. Reaction formation

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Chapter 11
Sleep Disorders

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11.1 Introduction

Sleep disorders are highly prevalent in our population. Psychiatrists are often asked to evaluate patients who either have difficulties initiating sleep, or difficulties with excessive sleep. Sleep disorders can be primary in nature, or can arise as a result of an underlying psychiatric condition. Studies have previously demonstrated the implications of sleep deprivation on individuals - poor sleep quality usually leads to impairment in cognitive performance and causes mood disturbances.

11.2 Classification

Based on the DSM-5 diagnostic manual, sleep disorders can be classified into the following:

1. **Dyssomnia**: disorder of the quantity or timing of sleep; includes both insomnia (disturbance in the quantity or quality of sleep) and hypersomnia (excessive sleepiness)

    - Breathing related sleep disorder
    - Circadian rhythm sleep disorder
    - Narcolepsy
    - Primary insomnia
    - Primary hypersomnia
    - Dyssomnia not otherwise specified

2. **Parasomnia**: abnormal behaviours that occur during sleep or during the transition between sleep and wakefulness

    - Nightmare disorder
    - Sleep terror disorder
    - Sleepwalking disorder
    - Parasomnia not otherwise specified

3. **Sleep disorder related to another mental disorder**

4. **Other sleep disorders**

11.3 Assessment of Sleep Disorders

Assessment of sleep disorders requires eliciting a detailed medical and psychiatric history from the patient. Furthermore, it is crucial to perform a more in-depth assessment of the sleep disturbance.

The following questions should be asked during assessment:

Daytime

- Do you feel sleepy during the day?
- Do you take routine naps during the day?
- Do you find yourself having difficulties with concentration during the day?

Night-time

- Could you describe to me a typical night of sleep (in terms of the number of hours you get, the quality of sleep etc.)?
- Do you find yourself having difficulties with falling asleep?
- Do you sleep well? Do you find yourself awake during the night? If so, what is the reason? Is it because of poor sleep or because you need to go to the toilet? (Going to the toilet twice per night is considered to be normal and not a sleep disturbance)
- Do you find yourself waking up much earlier in the morning?

Cause and course of sleeping problems

- How long you have had such sleeping difficulties for?
- What do you think might have precipitated such difficulties?
- Do you wake up and sleep at the same time during weekends compared to weekdays?
- Does your job currently require you to work in shifts or travel frequently?
- Do you drink caffeinated beverages close to your desired sleeping time?
- Do you have any other long standing medical problems apart from the difficulties you are experiencing currently with your sleep?

Past Management

- Have you sought help for your sleep problems? (e.g. GP, psychiatrist, acupuncturist, traditional medicine practitioner)
- Are you on any chronic long-term medications to help yourself fall sleep (e.g. sleeping pills)? Where do you get these medications?

In some cases, it is also crucial to obtain a sleep history from a sleep partner. The following questions should be asked:

- Have you noticed any change in your partner's sleeping habits?
- Have you noticed that your partner has been snoring during his sleep?
- Does your partner exhibit any abnormal movements (e.g. kicking) during sleep? Have you ever been injured by these movements?

11.4 Dyssomnia

Dyssomnia includes insomnia, hypersomnia, narcolepsy, breathing related sleep disorder, Kleine-Levin Syndrome and circadian rhythm sleep disorder.

11.4.1 Insomnia

Insomnia is diagnosed when the main problem lies with difficulty in initiating or maintaining sleep. It is important that other physical and mental conditions have been ruled out.

DSM-5 Diagnostic Criteria

There must be sleep difficulties for at least 3 nights per week, for the past 3 months. These sleep difficulties include:

1. Difficulties associated with initiation of sleep
2. Difficulties with maintaining sleep
3. Early morning awakening and inability to return back to sleep

These sleep difficulties must have occurred despite adequate opportunities for rest.

Epidemiology

Insomnia has been estimated to affect at least 30% of the general population, with women being more affected as compared to men. The incidence rate is higher among the elderly.

Mahendran et al (2007) studied 141 patients seen at the Insomnia Clinic at IMH and found the following:

- Primary insomnia: 47.5%
- Primary diagnosis of a psychiatric disorder: 52.5%
    - Of whom further diagnosed with comorbid psychiatric disorders: 41.1%
- Substance abuse problems: 4.3%

Aetiology

- **Intrinsic causes**: idiopathic/primary insomnia, sleep apnoea syndrome, periodic limb movement disorder, restless leg syndrome
- **Extrinsic causes**: poor sleep hygiene, environmental, adjustment, altitude, substance-related
- **Circadian rhythm disorders**
- **Medical disorders**: chronic pain, pulmonary diseases (e.g. COPD), neurological disorders (e.g. Parkinson disease), endocrine disorders, iron deficiency, restless leg syndrome, sleep apnoea
- **Psychiatric disorders**: generalised anxiety disorder, depression, bipolar affective disorder, chronic pain disorders, post-traumatic stress disorder, anorexia nervosa, somatoform disorder, schizophrenia

Patients with primary insomnia are usually concerned about getting sufficient sleep for the night; this anticipatory anxiety then worsens their sleep at night.

Management

- **Non-pharmacological**
  - **Sleep education**: various stages of sleep, typical sleep cycle, sleep cycle changes with age
    - Allow patients to gain insight into characteristics of the sleep issue they are seeking treatment for
  - **Sleep hygiene**: considered to be useful in all patients
    - Ensure sleep environment is familiar, comfortable, dark and quiet
    - Ensure regular bedtime routines with consistent bedtime and waking up time
    - Reinforce going to bed only when tired
    - Avoid factors associated with insomnia including overexcitement prior to going to bed, late evening exercises, consuming drinks with caffeine late in the day, excessive smoking/alcohol, excessive daytime sleeping, late meals prior to bedtime
  - **Stimulus control**: individuals should go to sleep only when tired
    - Get up and focus on relaxing activities before attempting to go to bed again if there are difficulties with sleep
  - **Sleep restriction**: must have high intrinsic motivation
    - Reduce total time spent in bed
    - Enable improvement in quality of sleep via consolidation

- **Pharmacological**
  - **Principles**
    - Prescription of hypnotics should be considered as the last option for the treatment of insomnia
    - Underlying cause of insomnia should be worked up prior to commencement of hypnotic treatment
  - **First-line**
    - Hydroxyzine (Atarax) 25-50mg ON
      - Anti-histamine
      - Main side effect: drowsiness in the morning
    - Mirtazapine (Remeron) 15mg ON
      - Sedative antidepressant
      - Main side effect: weight gain
    - Agomelatine (Valdoxan) 25mg ON
      - Novel antidepressant targeting melatonin receptors to regulate sleep-wake cycle
      - Main side effect: giddiness
  - **Second-line**
    - Zopiclone (Imovane) 7.5-15mg ON
      - Half-life: 6 hours
      - Main side effect: metallic taste
    - Zolpidem CR (StilnoxCR)10mg ON
      - Half-life 2-3 hours (non-CR form), longer in CR form
      - High risk of dependence

        - Associated with less day time sedation
    - **Benzodiazepines**
        - Principles:
            - Should only be used for short periods not more than 2 weeks; prevent dependence
            - The Singapore Medical Council regulates the prescription of benzodiazepine by GP; prescription of benzodiazepines should be done by specialists
    - **Common benzodiazepines**
        - Alprazolam (Xanax) 0.25mg
            - Indication: anxiolytic use
            - Half-life: ~11 hours
        - Clonazepam 0.5mg
            - Indication: anxiolytic use and REM-movement disorder
            - Half-life: ~25 hours
        - Lorazepam (Ativan) 0.5mg ON
            - Intramuscular form: calm patient with acute agitation
            - Half-life: ~10 hours
        - Diazepam (Valium) 5mg ON
            - Per-rectum use: epilepsy
            - Half-life: ~30 hours.

Benzodiazepine dependence in Singapore

Dong Y, Winslow M, Subramaniam M, Whelan G.
Subst Use Misuse, 2007;42(8): 1345-52

Conclusion: Benzodiazepine (BZD) use in Singapore is contributed to by both doctor-shopping behaviour and doctors' prescribing practices. Doctors need training on the assessment and management of BZD dependence.

11.4.2 Hypersomnia

Individuals suffering from hypersomnia tend to present with recurrent sleep attacks during the day, poor concentration and difficulties with transiting from a rested state to full arousal and wakefulness. To fulfil the diagnostic criteria, such episodes must have lasted for several months and must have significant impacts on their physical and psychosocial life.

Hypersomnia tends to affect 10-15% of the general population.

DSM-5 Diagnostic Criteria

There must be excessive sleepiness that occurs at least 3 times per week, for the past 3 months. This excessive sleepiness is characterised by:

1. Recurrent periods of sleep or lapses back to sleep even within the same day
2. Prolonged sleep episodes of more than 9 hours that are not restorative
3. Difficulties associated with being fully awake after abrupt awakening

These sleep difficulties must have occurred despite adequate opportunities for rest.

Aetiology

- Drug effects e.g. long acting benzodiazepine
- Poor sleep routines e.g. playing online games through the night
- Circadian rhythm sleep disorders
- Chronic physical illness
- Frequent parasomnia
- Insufficient night-time rest
- Kleine-Levin Syndrome
- Narcolepsy
- Obstructive sleep apnoea (commonest cause of secondary hypersomnia)
- Psychiatric disorders e.g. melancholic depression

Important causes of hypersomnia are explored in subsequent sections.

11.4.3 Narcolepsy

Narcolepsy is a hypersomnia characterised by excessive daytime sleepiness and falling asleep at inappropriate times.

DSM-5 Diagnostic Criteria

There must be repeated episodes during which there is a need to fall back into sleep, or nap occasionally within the same day. This must have occurred at least 3 times per week over the past 3 months.

In addition, there must be the presence of at least one of the following symptoms:

1. Episodes of sudden bilateral loss of muscular tone with maintained consciousness precipitated by laughter/joking
2. Lack of hypocretin
3. REM sleep latency less than or equal to 15 minutes

Epidemiology

- **Prevalence**: 5 per 10,000
- **Age**: 10-20 years
- **Gender**: M:F = 1:1

Aetiology

- HLA-DR2 is the candidate gene for this condition
- Hypocretin (hypothalamic neuropeptide transmitter which regulates sleep-wake cycles) is involved; concentrations of hypocretin-1 and hypocretin-2 are reduced in narcoleptic patients

Clinical Features

- **Cataplexy**: sudden and brief episodes of paralysis with loss of muscular tone
- **Excessive sleepiness**
- **Hypnagogic hallucinations** (hypnopompic hallucinations are less common but can still occur)
- **Sleep paralysis**

Management

- **Non-pharmacological**
  - Encourage regimen of regular naps in the daytime
- **Pharmacological**
  - **Modafinil (Provigil)**: helps reduce number of sleep attacks; better side effect profile than traditional psychostimulants
  - **SSRIs (e.g. fluoxetine)**: help suppress REM and reduce cataplexy

11.4.4 Breathing Related Sleep Disorder

Breathing disturbances which can occur during sleep include apnoea and hypopnoea.

Obstructive sleep apnoea

- **Epidemiology**
  - Common cause of breathing related sleep disorder o Affects at least 4% of the male population
- **Clinical features**
  - Apnoea at least five times per hour for greater than a 10-second period as a result of upper airway obstruction
  - Sleep is fragmented by short arousals following apnoea and there is unrefreshed sleep
- **Risk factors**

    - Middle aged overweight males who snore loudly
- **Management**
    - Weight loss
    - Continuous positive pressure ventilation (CPAP) via face mask at night

11.4.5 Kleine-Levin Syndrome

Epidemiology

- Rare in prevalence
- Largely affects male adolescents

Clinical Features

- **Symptoms**
    - Episodes of excessive sleepiness
    - Increased appetite
    - Episodes of sexual disinhibition and other co-morbid psychiatric symptoms
- **Duration**
    - Often lasts for days or weeks with long intervals
    - Free from attacks in between episodes

Management

- Stimulatory SSRIs (e.g. fluoxetine)
- Psychostimulants: can be used but usually only effect for a short period of time

11.4.6 Circadian Rhythm Sleep Disorder

Patients with circadian rhythm sleep disorder have abnormal sleep-wake patterns, leading to excessive daytime sleepiness and impairment in social or occupational functioning.

There are two main types of circadian rhythm sleep disorder:

1. **Advanced sleep phase syndrome**: early onset of sleep with resultant early morning awakening
2. **Delayed sleep phase syndrome**: delayed onset of sleep (usually at 2am); total sleep time is normal

Aetiology

- Time zone changes
- Shift work (e.g. security guards)

- Irregular sleep-wake pattern

Management

- **Non-pharmacological**
  - **Sleep education**: stages of sleep, assist establishment of good sleep habits
    - **Shift-workers**: advised to try and have regular sleep cycles, and attempt to nap if necessary to compensate for the absolute number of sleep hours lost
- **Pharmacological**
  - **Agomelatine** or **melatonin**: reset circadian rhythm
  - **Hypnotics** e.g. short acting benzodiazepines

11.5 Parasomnia

Parasomnia is classified into the following subtypes:

- **Arousal disorders**: confusional arousals, sleep-terrors, sleep-walking
- **Sleep-wake transition disorders**: nocturnal leg cramps, sleep-talking, rhythmic movement disorder
- **Parasomnia associated with REM sleep**: nightmares, sleep paralysis
- **Other parasomnia**: sleep bruxism, sleep enuresis, other parasomnia not otherwise stated

11.5.1 Somnambulism (Sleep-Walking)

Epidemiology

- Prevalent among both children and adults
- **Children**: up to 17% affected, higher incidence among 4-8-year-olds
- **Adults**: up to 10% affected

Clinical Features

- Complex and automatic behaviours e.g. wandering without purpose, attempting to dress or undress
- Episodes tend to occur in the initial stages of sleep, usually 15-120 minutes after individuals fall asleep
- Usually able to get back to bed and continue with sleep after the event has taken place
- Usually do not recall exact incidents that happen
- Appear to be disorientated and confused if awakened during somnambulism

Management

- **Supportive therapy, sleep hygiene, psychoeducation** and **reassurance** are useful
- **Protective measures**: locking doors/windows, installation of window bars/frames to prevent accidents e.g. fall from height
- **Antidepressants**: imipramine and paroxetine are useful

11.5.2 Sleep Terrors (Night Terrors)

Epidemiology

- **Children**: 3%
- **Adults**: 1%
- **Gender**: M > F

Clinical Features

- Sudden awakening during sleep with loud terrified screaming
- Physiological changes: tachycardia, diaphoresis, mydriasis
- Each episode is estimated to last around 10-15 minutes
- Similar to sleep-walking, confused and disoriented if awakened during sleep terror
- Usually unable to recollect events in detail

Management

- **Supportive therapy, sleep hygiene, psychoeducation** and **reassurance** are useful

11.5.3 Nightmares

Definition

- Awakening from REM sleep to full consciousness with detailed dream recall ability

Epidemiology

- Common especially among children between the ages of 5 to 6 years old

Management

- No specific treatment is usually required
- Agents that help to suppress REM sleep can be used e.g. tricyclic drugs and SSRIs

11.5.4 Periodic Limb Movement Disorder

Epidemiology

Commoner in elderly, pregnant women, patients with vertebral degenerative disorders

Aetiology

- B12 deficiency
- Iron deficiency
- Chronic renal disease
- Parkinson disease

Clinical Features

- Repeated leg twitching during sleep

Investigations

- B12 and ferritin levels

Management

- Vitamin B12 and iron tablets

11.6 REM and Non-REM Sleep Disorder

Sleep comprises of periods of NREM and REM sleep alternating through the night; the deepest stages of NREM occur in the first part of the night, and episodes of REM sleep are longer as the night progresses.

Table 11.1 *Clinical Features of REM and NREM Sleep*

	REM Sleep	NREM Sleep
Dreams	• ↑ recall of dreams if woken • ↑ complexity of dreams	• ↓ recall of dreams if woken • ↓ complexity of dreams
Sympathetic / Parasympathetic activity	• ↑ sympathetic activity • ↑ transient runs of conjugate eye movements • ↑ heart rate • ↑ systolic blood pressure • ↑ respiratory rate • ↑ cerebral blood flow	• ↑ parasympathetic activity • Bell phenomenon + few or no eye movements • ↓ heart rate • ↓ systolic blood pressure • ↓ respiratory rate • ↓ cerebral blood flow

	REM Sleep	NREM Sleep
Neuromuscular	• ↓ muscle tone • Occasional myoclonic jerks • Penile erection or increased vaginal blood flow	• Abolition of tendon reflexes • No penile erection
Poikilothermic condition	Thermoregulation stops (no shivering or sweating)	Thermoregulation preserved

Table 11.2 *REM and NREM Sleep Disorders*

REM Sleep-Related Disorders	NREM Sleep-Related Disorders
Nightmares and vivid violent dreams • Increased recall of dreams if awoken from REM sleep • Can be treated with clonazepam	Night terrors
Narcolepsy	Somnambulism
Pickwickian syndrome • Compromised ventilation abruptly worse during REM sleep	Sleep-talking • Utterances of words or sounds during sleep without awareness • No treatment required
Sleep apnoea	Sleep-drunkenness • Confusion during arousals from sleep
Sleep paralysis	Bedwetting
Depressive disorders • Short REM latency • Increased REM sleep duration • Most antidepressants reduce REM sleep duration except bupropion	Nocturnal leg cramps

Alcohol misuse
• Increased REM sleep duration
  ○ Increased NREM sleep and reduced REM sleep during first portion of night
  ○ REM rebound associated with nightmares or vivid dreams in the second half of the night
• Alcohol administration to alcoholic patients results in difficulty falling asleep (prolonged sleep latency), decreased total sleep time, increased SWS% and decreased REM%
• Withdrawal: REM% increases and exceeds baseline levels (REM rebound)
	Depression

Seizure • Absence seizures • Motor seizures	Old age (> 60 years) • Decreased duration of SWS • Increased latency to sleep onset • Increased fragmented sleep

REM Sleep-Related Disorders	NREM Sleep-Related Disorders
	• Increased daytime napping

Key Learning Points

1. Disorders of sleep can either be in terms of quantity and/or quality of sleep (dyssomnia), or in terms of abnormal behaviours related to sleep (parasomnia).
2. Taking a collateral history from a sleeping partner is often beneficial in making a sleep disorder diagnosis.
3. The classical sleep disturbance seen in depressive disorder is early morning awakening.
4. Non-pharmacological management of dyssomnia is preferred and can be in the form of sleep education, sleep hygiene advice, stimulus control, and sleep restriction.
5. Preferred pharmacological agents for insomnia include hydroxyzine, mirtazapine, agomelatine, melatonin, and quetiapine.
6. Zolpidem causes less muscle relaxation than zopiclone and is therefore preferred in patients with obstructive sleep apnoea as the former allows them to maintain a patent airway during sleep; however due to its lack of myorelaxant properties zolpidem carries a higher risk of sleepwalking.
7. Benzodiazepines are not first-line pharmacological agents in sleep disorders and should not be routinely prescribed by non-specialists.
8. The commonest cause of secondary hypersomnia is obstructive sleep apnoea.
9. REM sleep causes an increase in parasympathetic tone while NREM sleep causes and increase in parasympathetic tone.
10. Old-age sleeping difficulties including fragmented sleep, increased latency to sleep onset and increased daytime napping are due to disturbances in NREM sleep.

Revision MCQs and MEQs

MCQ

1. Which of the following medications is a non- benzodiazepine hypnotic?

a. Alprazolam
b. Clonazepam
c. Diazepam
d. Lorazepam
e. Zopiclone

2. A patient is very disturbed by the sudden death of her mother. She feels very agitated in the daytime and needs an anxiolytic to calm her down on a PRN basis for the next two weeks. She has tried hydroxyzine and finds it ineffective. Which of the following oral medications is most suitable in her case?

a. Alprazolam
b. Benzhexol
c. Clonazepam
d. Diazepam
e. Midazolam

Answer:
Benzhexol is an anticholinergic agent and is not relevant to this case. Midazolam is indicated for intravenous or intramuscular use prior to a procedure. Alprazolam has the shortest half-life among the remaining options and is good for anxiolytic effect in the daytime for two weeks.

3. Which of the following is not a REM sleep disorder?

a. Narcolepsy
b. Nightmare
c. Night terror
d. Sleep apnoea
e. Sleep paralysis

4. Which of the following is a REM sleep disorder?

a. Night terror
b. Sleep drunkenness
c. Sleep paralysis
d. Sleep walking
e. Sleep talking

MEQ

You are a GP of a neighbourhood clinic. You are seeing a 40-year-old woman who complains of poor sleep at night. She requests to take a blue tablet from you because her GP prescribed this medication in the past. She showed you the package and the drug is called midazolam (Dormicum).

1. Would you prescribe midazolam to this patient?

Answer:
No. Oral midazolam is not indicated as a regular hypnotic because it has a high risk of causing dependency. Midazolam is a potent benzodiazepine which crosses the blood-brain barrier rapidly.

2. The patient is very upset that most GPs refuse to prescribe Dormicum to her nowadays. She wants to lodge a complaint. What would you tell her about the regulation of prescription of benzodiazepines or sleeping pills?

Answer:
The Singapore Medical Council advises all GPs to keep a log of the benzodiazepine prescribed and doctors have to justify the reasons for prescription. Investigations will be conducted for unnecessary prescription leading to misuse by the patients.

3. Name 3 types of non-addictive medications which you would prescribe instead of Dormicum.

Answer:
Antihistamines e.g. hydroxyzine, chlorpheniramine Noradrenaline and specific serotonin antidepressants e.g. mirtazapine Melatonin Antidepressant targeting melatonin receptors e.g. agomelatine

4. She refuses to take any medication except Dormicum. A few days later, her daughter brings her to the clinic again and she was unconscious for 10 minutes. What is the most important diagnosis you need to consider?

Answer:
Benzodiazepine withdrawal seizure

5. Her daughter asks whether admission to a hospital would help her condition. Your answer is:

Answer:
Yes. She may need detoxification with diazepam in the ward. Diazepam will be slowly titrated from a high dose (e.g. 30mg per day) to a low dose (e.g. 5mg per day) over a one to two-week period to prevent further withdrawal seizures.

EMIS

Sleep EEG Waveforms

1. The wavelength of EEG that is greater than 13Hz in frequency is:

   a. Alpha
   b. Beta
   c. Delta
   d. Gamma
   e. Theta

EEG Waveforms

1. Alpha:

   a. More than 13Hz
   b. 8-13Hz
   c. 4-8Hz
   d. Less than 4Hz
   e. 7-11Hz
   f. Single sharp wave
   g. Spike wave

2. Beta:

   a. More than 13Hz
   b. 8-13Hz
   c. 4-8Hz
   d. Less than 4Hz
   e. 7-11Hz
   f. Single sharp wave
   g. Spike wave

3. Theta:

   a. More than 13Hz
   b. 8-13Hz
   c. 4-8Hz
   d. Less than 4Hz
   e. 7-11Hz
   f. Single sharp wave
   g. Spike wave

4. Mu:

a. More than 13Hz
b. 8-13Hz
c. 4-8Hz
d. Less than 4Hz
e. 7-11Hz
f. Single sharp wave
g. Spike wave

5. Delta:

a. More than 13Hz
b. 8-13Hz
c. 4-8Hz
d. Less than 4Hz
e. 7-11Hz
f. Single sharp wave
g. Spike wave

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Chapter 12
Psychosexual Medicine

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12.1 Sexual Dysfunction

Sexual dysfunctions refer to coital difficulties resulting from impaired expression of normal sexual desire, arousal or orgasm.

General criteria

- The subject is unable to participate in a sexual relationship as he or she would wish
- The dysfunction occurs frequently
- The dysfunction has been present for at least 6 months
- The dysfunction is not entirely attributable to other psychiatric disorders

12.1.1 Premature Ejaculation

Clinical Features

- Inability to delay ejaculation sufficiently during intercourse
- Ejaculation occurs ≤ 1 minute after the beginning of intercourse
- Ejaculation occurs in the absence of sufficient erection to make intercourse possible

DSM-5 Diagnostic Criteria

There must be a recurrent pattern of ejaculation occurring during partnered sexual activity within approximately 1 minute following vaginal penetration and before the individual wishes it to happen. This has to happen at least for almost all occasions of sexual activities.

Epidemiology

This condition has been estimated to affect around 35-40% of men who are receiving treatment for sexual- related disorders amongst the American population.

Management

- **Non-pharmacological**
    - **Squeeze technique**: female partner grips the penis for a few seconds when the man indicates that he is about to have an orgasm
    - **Vaginal containment**: containing the penis without any movement
- **Pharmacological**
    - **Selective Serotonin Reuptake Inhibitors (SSRIs)**
    - **Dapoxetine (Priligy)**: inhibits serotonin transporter, leading to more serotonin action at the synaptic cleft and hence helping to promote delayed ejaculation

12.1.2 Orgasmic Disorder

DSM-5 Diagnostic Criteria

Either of the following symptoms must be experienced on nearly all occasions of sexual activity for at least 6 months:

1. Delayed or infrequent or total absence of orgasm
2. Reduction in the intensity of orgasmic sensations

Epidemiology

This condition has been estimated to affect around 30% of females and males amongst the American population.

Clinical Features

- **Women**: orgasm does occur in certain situations e.g. when masturbating or with certain partners
- **Men**: manifests as lack of or delayed ejaculation; not as common as premature ejaculation
    - May be caused by antipsychotics, MAOIs and SSRIs
    - May lead to infertility

Management

- **Women**: graduated practice in masturbation to orgasm
- **Men**: yohimbine may assist ejaculation (side effects: anxiety, flu-like symptoms, diarrhoea, agitation)

12.1.3 Failure of Genital Response

Erectile Dysfunction (Men)

Erection sufficient for intercourse fails to occur when intercourse is attempted

Epidemiology

- Twice as common in men older than 50 years than those younger than 50 years
- Estimated prevalence of the disorder amongst the American population has been estimated to be around 8%

DSM-5 Diagnostic Criteria

At least one of the following symptoms must have been experienced nearly on all occasions of sexual activity for at least 6 months:

1. Difficulties involving obtaining an erection
2. Difficulties involving maintaining an erection till the completion of the sexual activity
3. Decrease in erectile rigidity

Aetiology

- Penile erection: depends on parasympathetic activity
    - Relaxation of smooth muscle in corpus cavernosum
    - Intact pelvic blood supply to penis
    - Increase in arterial inflow and reduction of venous outflow from penis
    - Build-up of blood pressure in penis close to systolic blood pressure
- Causes include:
    - Anxiety (↑sympathetic tone)
    - Diabetes mellitus
    - Venous incompetence
    - Dialysis
    - Spinal cord injury

Clinical Features

There are several forms:

- Full erection occurs during the early stages of sexual intercourse but disappears or declines before ejaculation
- Erection does occur, but only at times when intercourse is not being considered
- Partial but not full erection which is insufficient for intercourse
- No penile tumescence occurs at all

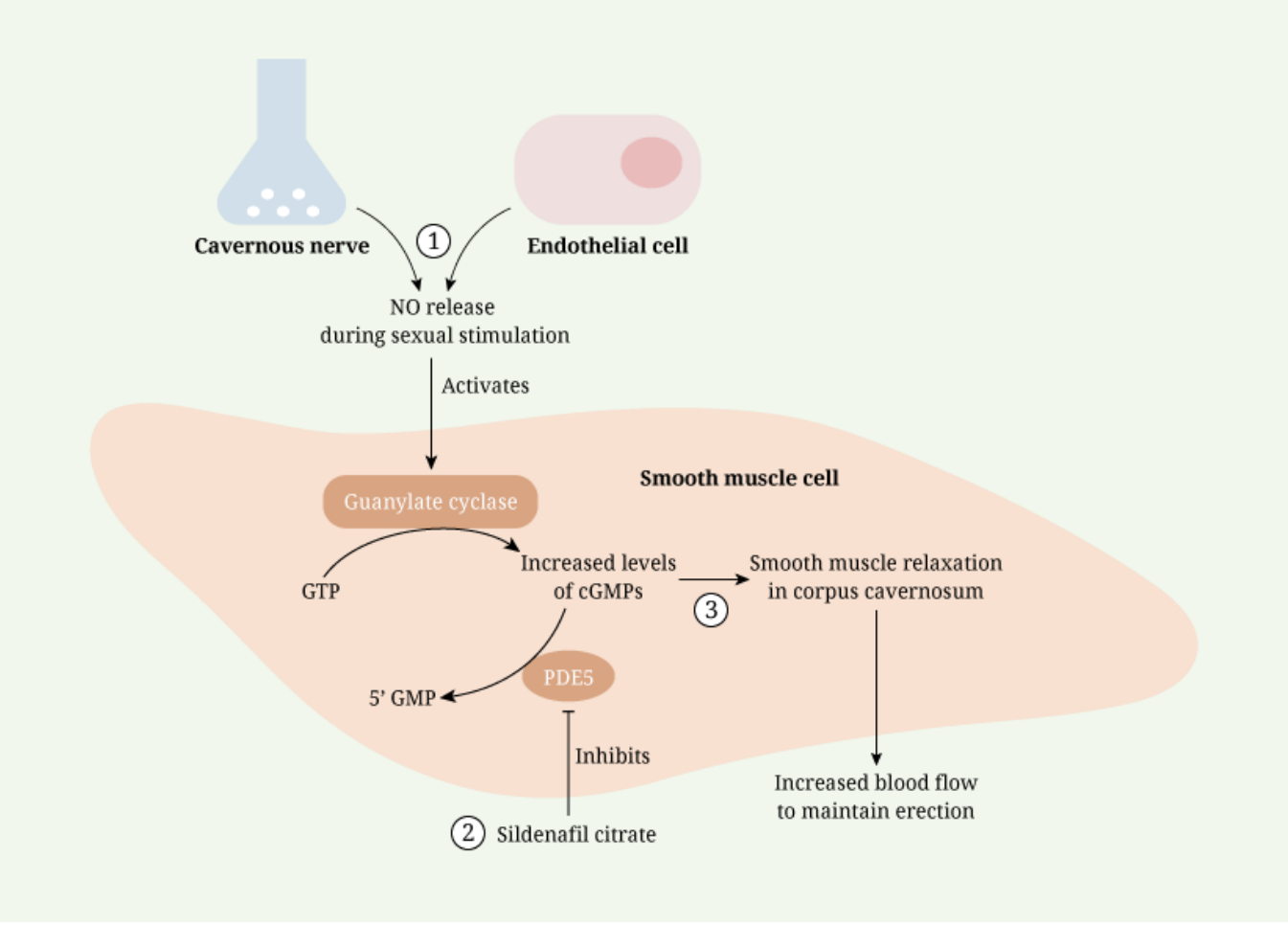
Management

- **Non-pharmacological**
    - Vacuum devices
- **Pharmacological**
    - Sildenafil (Viagra): PDE-5 inhibitor
        - Mechanism of action: inhibits PDE-5 --> enhances effect of nitric oxide prevents degradation of cGMP --> smooth muscle relaxation, inflow of blood to corpus cavernosum
        - Side effects: headache, flushing, dyspepsia, nasal congestion, photophobia, blurred vision
        - Half-life:4-5hours
    - Vardenafil (Levitra): PDE-5 inhibitor

- Mechanism of action: similar to that of sildenafil
- Side effects: nausea (commonest)
- Dose: start at 10mg, use 1-2 hours prior to commencement of sexual activity
- Half-life:4-5hour

- Tardalafil (Cialis): PDE-5 inhibitor
  - Side effects: headache, indigestion, backpain, muscle aches, facial flushing, rhinitis
  - Dose: start at 10mg, PRN prior to sexual activity
  - Half-life: 17.5 hours

Figure 12.1 *Mechanism of Sildenafil Citrate*



1	2	3
The mechanism of erection of the penis involves release of nitric oxide (NO) in the corpus cavernosum during sexual stimulation. NO then activates the enzyme guanylate cyclase, which results in increased levels of cyclic guanosine monophosphate (cGMP), producing smooth muscle relaxation in the corpus cavernosum which allows the blood inflow.	Sildenafil citrate is ingested orally prior to sexual intercourse and enhances the effect of nitric oxide (NO) by inhibiting phosphodiesterase type 5 (PDE5), which is responsible for degradation of cGMP in the corpus cavernosum.	The increase in cGMP results in smooth muscle relaxation and inflow of blood to the corpus cavernosum.

Failure of Genital Response (Women)

This manifests as failure of vaginal lubrication and inadequate tumescence of the labia. There are several forms:

- General: lubrication fails in all relevant circumstances
- Lubrication may occur initially but fails to persist for long enough to allow comfortable penile entry
- Situational: lubrication occurs only in some situations (e.g. with one partner but not another, or during masturbation)

12.1.4 Sexual Interest/Arousal Disorder

DSM-5 Diagnostic Criteria

Over a duration of 6 months, an individual has a reduced sexual interest or arousal, as manifested by at least 3 of the following symptoms:

1. Decreased interest in sexual activity
2. Decreased number of sexual thoughts and fantasies
3. Reduced attempts to initiate sexual activity
4. Absence or reduction in sexual activity
5. Absence or reduced sexual interest in response to internal or external sexual cues
6. Absence or reduced genital or non-genital sensations during sexual activity

Aetiology

- Depression
- Multiple sclerosis
- Hyperprolactinaemia
- Anticonvulsants (reduce testosterone level in men)

12.1.5 Sexual Aversion Disorder

Management

- Treat underlying psychiatric/medical disorders
- Couple therapy
- Cognitive therapy/counselling may be useful
- Apomorphine hydrochloride may improve sexual desire; acts centrally by stimulating dopamine release

12.1.6 Genito-Pelvic Pain/Penetration Disorder (Non-Organic Vaginismus)

DSM-5 Diagnostic Criteria

There must be recurrent and persistent difficulties involving at least one of the following for a minimum of at least 6 months causing significant distress to the individual:

1. Vaginal penetration during intercourse
2. Pelvic or vulvovaginal pain during intercourse or during penetration attempts
3. Fear or anxiety about pain in anticipation of, during, or as a result of vaginal penetration
4. Tensing and tightening of the pelvic floor muscles during attempted penetration

Clinical Features

- Normal response has never been experienced
- Vaginismus develops after a period of relatively normal response
    - When vaginal entry is not attempted, a normal sexual response may occur
    - Any attempt at sexual contact leads to generalised fear and efforts to avoid vaginal entry

Management

- Sensate focus therapy: focus on communication, mutual touching, postpone vaginal intercourse to a later stage; reduces performance anxiety, explores alternative sexual practices to enhance mutual satisfaction

- Dilators: applying dilators of increasing size to desensitise patients to painful feelings

12.1.7 Non-Organic Dyspareunia

In women

Clinical Features

- Pain is experienced at entry of the vagina, either throughout sexual intercourse or only when deep thrusting occurs
- Attributable to vaginismus or failure of lubrication

Management

Treat underlying disorders e.g. endometriosis, pelvic infections

In men

Clinical Features

- Pain/discomfort experienced during sexual response
    - Timing of pain and exact location should be carefully recorded
- Discomfort is not the result of local physical factors or organic causes

12.2 Paraphilia

Paraphilia refers to recurrent intense sexual urges and fantasies involving unusual objects or activities with a duration of at least 6 months. The person either acts on the urges or is markedly distressed by them.

12.2.1 Fetishism

DSM-5 Diagnostic Criteria

Over a time duration of at least 6 months, there must be recurrent and intense sexual arousal from the usage of non-living objects or highly specific focus on non-genital body parts. These objects are not limited to articles of clothing used in cross-dressing, or devices that are designed for the purpose of tactile genital stimulation.

Clinical Features

Fetish: non-living object (e.g. rubber garments, underclothes, high heeled shoes; the fetish becomes the most important source of sexual stimulation or is essential for satisfactory sexual response.

Epidemiology

- **Gender**: commoner in men (20% homosexuals)
- **Onset**: common during adolescence

Aetiology

- May be due to classical conditioning or temporal lobe dysfunction
- Amphetamine and cocaine misuse are associated with fetishism

Management

Behavioural therapy

Prognosis

- Most fetishism in heterosexuals will diminish after developing a satisfying relationship
- Prognosis worse in single men or those with forensic history related to fetishism

12.2.2 Transvestic Disorder

DSM-5 Diagnostic Criteria

There must be recurrent and intense sexual arousal from cross-dressing, for a period of at least 6 months. The individual wears articles of clothing of the opposite sex in order to create the appearance and feeling of being a member of the opposite sex, and cross-dressing is closely associated with sexual arousal. Once orgasm occurs and sexual arousal declines, there is a strong desire to remove the clothing.

Epidemiology

Commoner in men; most males are heterosexual

Aetiology

May be due to classical conditioning or temporal lobe dysfunction

Management

No specific treatment has been identified

Prognosis

Condition becomes less severe as sexual drive declines

12.2.3 Exhibitionistic Disorder

DSM-5 Diagnostic Criteria

There must be the presence of recurrent and intense sexual arousal from exposure of one's genitals to an unsuspecting person, over a period of at least 6 months.

12.2.4 Voyeuristic Disorder

DSM-5 Diagnostic Criteria

There must be the presence of recurrent and intense sexual arousal from observing an unsuspecting person who is naked, in the process of disrobing or engaging in sexual activity over a total duration of 6 months. This diagnosis can only be made if the individual is at least 18 years of age.

Epidemiology

Usually a man who is shy, socially awkward with the opposite gender, has difficulty with sexual expression

Management

No specific treatment is recommended

12.2.5 Paedophilic Disorder

DSM-5 Diagnostic Criteria

Over a duration of at least 6 months, the individual must have recurrent, intense sexually arousing fantasies, urges or behaviours that involve sexual activity with a prepubescent child, or any children younger than the age of 13 years old. For this diagnosis to be made, the individual must be at least 16 years of age and at least 5 years older than the child or children.

12.2.6 Sadomasochism

Sexual Masochism Disorder

DSM-5 Diagnostic Criteria

Over a total duration of at least 6 months, the individual must have recurrent and intense sexual arousal from the act of being humiliated, beaten, bound, or otherwise made to suffer.

Sexual Sadism Disorder

DSM-5 Diagnostic Criteria

Over a total duration of at least 6 months, the individual must have recurrent and intense sexual arousal from the physical or psychological suffering of another person.

12.2.7 Other Paraphilias

Auto-erotic asphyxia

Induction of cerebral anoxia to heighten sexual arousal

Frotteurism

Rubbing male genitalia against another person

Coprophilia

Sexual arousal induced by watching the act of defecation

Coprophagia

Sexual arousal induced following the eating of faeces

Sexual urethism

Sexual arousal obtained by stimulation of the urethra in women

Urophilia

Sexual arousal obtained by watching the act of urination

12.3 Gender Dysphoria Disorder

In gender dysphoria disorder, the person does not prefer one's biological gender and interested to engage in behaviours associated with opposite gender.

12.3.1 Gender Dysphoria in Children

DSM-5 Diagnostic Criteria

Over a duration of at least 6 months, there must be marked incongruence between one's expressed gender and assigned gender, manifested by at least 6 of the following:

1. Persistent and strong wish to be of the other gender
2. For boys, a persistent preference for cross dressing in female attire; and for girls, a persistent preference for wearing only typical masculine clothing
3. Strong preference for cross-gender roles during play
4. Strong preference to engage in activities typically done by the other gender
5. Strong desire to be with playmates of the other gender
6. For boys, rejection of typical masculine toys and for girls, rejection of typical feminine toys
7. Strong dislike of one's sexual anatomy
8. Strong wish that primary and secondary sexual characteristics would match one's experienced gender

12.3.2 Gender Dysphoria in Adults

DSM-5 Diagnostic Criteria

Over a duration of at least 6 months, there must be marked incongruence between one's expressed gender and assigned gender, which is manifested by at least 2 of the following:

1. Marked incongruence between one's experienced gender and primary and secondary characteristics
2. Strong desire to get rid of one's primary and/or secondary sex characteristics
3. Strong desire for the primary and/or secondary characteristic of the other gender
4. Strong desire to be of the other gender
5. Strong desire to be treated as the other gender
6. Strong conviction of having typical feelings and reactions of the other gender

Clinically, it is still important to differentiate between the following:

- **Transsexualism**: the individual desires to live and be accepted as a member of the opposite sex, usually accompanied by the wish to make his or her body as congruent as possible with the preferred sex through surgery and hormonal treatment
    - **Duration**: at least 2 years (persistent transsexual identity)
    - **Exclude**: schizophrenia, chromosome abnormality
    - **Management**: sex-reassignment surgery

- **Dual-role transvestism**: the individual wears clothes of the opposite sex in order to experience temporary membership of the opposite sex; there is no sexual motivation for cross-dressing and the individual has no desire for a permanent change of gender
    - **Age of onset**: puberty; behaviour is concealed without guilt
    - **Treatment**: no specific treatment is required but allowing the person to ventilate their feelings may help to reduce the frequency of cross-dressing
    - **Prognosis**: some become fetishists

- **Gender identity disorder of childhood**
    - **Girls**: the child shows persistent and intense distress about being a girl, and has a stated desire to be a boy
        - Either of the following must be present:
            - Persistent marked aversion to feminine clothing and insistence on wearing stereotypical masculine clothing, e.g. boys' underwear and other accessories
            - Persistent rejection of female anatomical structures, as evidenced an assertion that she wants to have a penis; ii) refuse to urinate in a sitting position; iii) assertion that she does not want to grow breasts or have menses
        - The girl has not yet reached puberty.
        - Duration of symptoms: at least 6 months.
    - **Boys**: symptoms very similar to those in girls
        - Pre-pubertal child shows persistent and intense distress about being a boy, has a desire to be a girl, prefers female activities and clothing, rejects male anatomical structure
        - Duration of symptoms: at least 6 months.

Key Learning Points

1. Sexual dysfunction is a disorder of impaired sexual desire, arousal or orgasm whereas paraphilia is a disorder of sexual urges or fantasies which deviate from what is considered normative.
2. Premature ejaculation is defined as ejaculation within 1 minute of intercourse.
3. Penile erection is dependent of parasympathetic activity.
4. Pharmacological agents treating erectile dysfunction are all PDE-5 inhibitors sharing a common mechanism of action and differing by side effect profile and half-life.
5. Management of non-organic vaginismus includes sensate focus therapy and progressive dilation.
6. Dopamine increases libido whereas serotonin inhibits sexual function; therefore psychiatric medications which can cause sexual dysfunction include antipsychotics, MAOIs and SSRIs.
7. In transvestic disorder, patients cross-dress without the intention of permanently changing gender.
8. For paedophilic disorder to be diagnosed the patient must be at least 16 years of age and at least 5 years older than the child or children.
9. Gender dysphoric disorder is a perceived incongruence between a patient's expressed gender and assigned gender for at least six months' duration.
10. In transsexualism, exclude schizophrenia, causing delusions regarding sexual identity as well as chromosomal abnormalities.

Revision MCQs and MEQs

MCQ

1. Which of the following is the most likely diagnosis for a male national serviceman who describes persistent 3. and intense distress about assigned sex, together with an insistence that he is of the female gender?

a. Dual-role transvestism
b. Egodystonic sexual orientation

c. Sexual maturation disorder
d. Transsexualism
e. Transvestism

Answer:
The patient suffers from Transsexualism. Transvestism refers to cross-dressing with no intention to change gender.

2. Which of the following is not an established effect of sildenafil?

a. Flushing
b. Hypertension
c. Nasal congestion
d. Priapism
e. Visual disturbance

Answer:
Slidenafil causes smooth muscle relaxation and causes hypotension rather than hypertension

3. Which of the following is not recommended in sensate focus sex therapy?

a. Adopt a behavior therapy approach
b. Aim to reduce performance anxiety
c. Focus on communication in the beginning
d. Focus on mutual stimulation in the beginning
e. Focus on vaginal intercourse in the beginning

Answer:
Sensate focus therapy suggests focusing on vaginal intercourse at a later stage and not in the beginning.

MEQ

You are a GP of a neighbourhood clinic. A 50-year-old man complains of erectile dysfunction for 6 months. You have been treating his diabetes. He also suffers from major depression and takes an SSRI (fluoxetine) on a daily basis. His relationship with his wife is poor as a result of financial problems.

1. List 4 possible causes of his erectile dysfunction.

Answer:
Primary erectile dysfunction
Sexual dysfunction associated with depression
Side effect of fluoxetine

Organic causes e.g. diabetes
Poor marital relationship

2. What question would you ask to differentiate organic from psychogenic erectile dysfunction?

Answer:
The presence of early morning erections differentiates organic from psychogenic erectile dysfunction

3. How do you differentiate erectile dysfunction as part of depressive symptoms from antidepressant-induced erectile dysfunction?

Answer:
The history taking process would differentiate these two conditions. Erectile dysfunction associated with depression occurs prior to the initiation of antidepressants. Antidepressantinduced erectile dysfunction occurs after initiation of antidepressants. The severity of erectile dysfunction may be dose-related and improve after stopping the antidepressant.

4. After careful assessment, the erectile dysfunction is determined to be related to antidepressants. List 4 pieces of treatment advice.

Answer:
Reduce the dose and frequency of antidepressant
Change antidepressant from fluoxetine to mirtazapine or bupoprion which have less sexual dysfunction
Consider CBT for treatment of depression and stop antidepressant
Drug holiday; stop antidepressant on weekends or during a holiday when sexual activity takes place
Consider sildenafil to treat erectile dysfunction
Refer the patient for sensate focus sex therapy with his wife

---

EMIS

1. Use of inanimate objects to achieve arousal

a. Exhibitionism
b. Fetishism
c. Paedophilia
d. Sexual masochism
e. Sexual sadism
f. Transvestic fetishism
g. Voyeurism
h. Frotteurism

i. Kleptomania
j. Pyromania

2. Touching and rubbing against non-consenting individuals

a. Exhibitionism
b. Fetishism
c. Paedophilia
d. Sexual masochism
e. Sexual sadism
f. Transvestic fetishism
g. Voyeurism
h. Frotteurism
i. Kleptomania
j. Pyromania

3. Tendency to observe unsuspecting persons naked or engaged in some sexual activity

a. Exhibitionism
b. Fetishism
c. Paedophilia
d. Sexual masochism
e. Sexual sadism
f. Transvestic fetishism
g. Voyeurism
h. Frotteurism
i. Kleptomania
j. Pyromania

4. Tendency to wear clothes of the opposite sex for sexual arousal

a. Exhibitionism
b. Fetishism
c. Paedophilia
d. Sexual masochism
e. Sexual sadism
f. Transvestic fetishism
g. Voyeurism
h. Frotteurism
i. Kleptomania
j. Pyromania

5. Sex with prepubescent children

a. Exhibitionism
b. Fetishism

c. Paedophilia
d. Sexual masochism
e. Sexual sadism
f. Transvestic fetishism
g. Voyeurism
h. Frotteurism
i. Kleptomania
j. Pyromania

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The Open University and BBC on family and child development
http://open2.net/healtheducation/family_childdevelopmen t/2005/extractone.html

Rx List Drug Information http://www.rxlist.com/script/main/hp.asp

Chapter 13
Somatoform Disorders

Chapter Contents

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13.1 Somatic Symptoms and Related Disorders

Somatoform disorders are now referred to as somatic symptoms and related disorders.

The current DSM-5 reduces the number of disorders and subcategories to avoid overlap. Diagnosis of somatization disorder, hypochondriasis, pain disorder and undifferentiated somatoform has been removed.

DSM-5 Diagnostic Criteria

There must have been excessive preoccupations and persistent anxiety about one or more bodily symptoms for at least six months' duration, such that excessive amounts of time and energy are devoted to these bodily symptoms which lead to significant impairments in life.

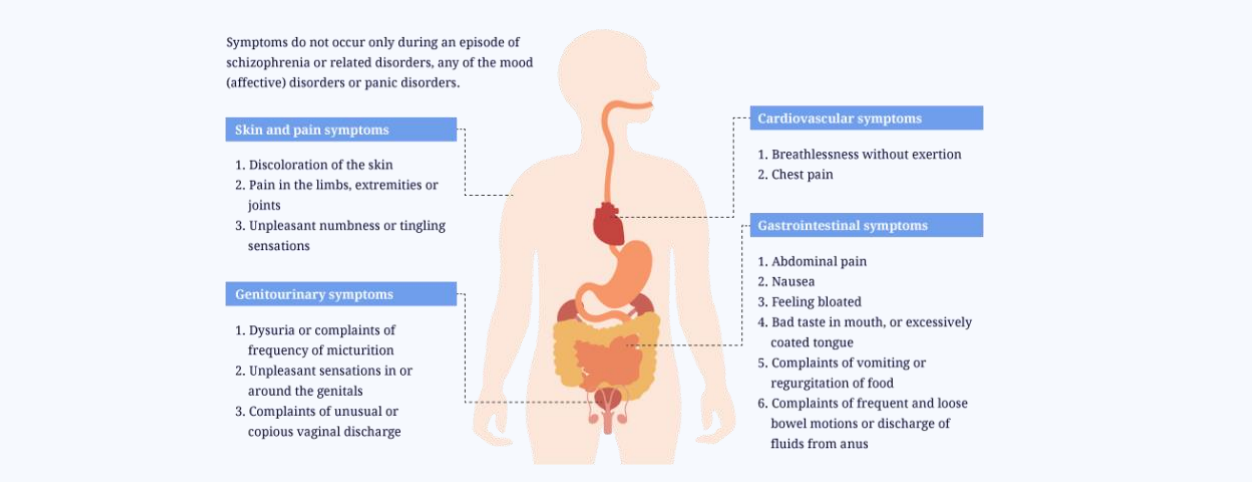
Nevertheless, it is still important clinically to know about **somatoform disorder**, **somatoform autonomic dysfunction** and **persistent somatoform pain disorder**.

13.1.1 Somatoform Disorder

ICD-10 Diagnostic Criteria

1. There must be a history of at least 2 years' complaints of multiple physical symptoms that cannot be explained by any detectable physical disorders
2. There must also be chronic preoccupation with the symptoms that has caused persistent distress and has led the patient to seek repeated consultations or investigations with GPs or specialists
3. There is persistent refusal to accept medical reassurance that there is no adequate physical cause for the symptoms
4. There must be a total of six or more symptoms from the following list, with symptoms occurring in at least two separate body systems:

Figure 13.1 *Core Criteria of Somatoform Disorder*


Symptoms do not occur only during an episode of schizophrenia or related disorders, any of the mood (affective) disorders or panic disorders.
Skin and pain symptoms
1. Discoloration of the skin
2. Pain in the limbs, extremities or joints
3. Unpleasant numbness or tingling sensations
Genitourinary symptoms
1. Dysuria or complaints of frequency of micturition
2. Unpleasant sensations in or around the genitals
3. Complaints of unusual or copious vaginal discharge
Cardiovascular symptoms
1. Breathlessness without exertion
2. Chest pain
Gastrointestinal symptoms
1. Abdominal pain
2. Nausea
3. Feeling bloated
4. Bad taste in mouth, or excessively coated tongue
5. Complaints of vomiting or regurgitation of food
6. Complaints of frequent and loose bowel motions or discharge of fluids from anus

Previously, in DSM-IV-TR, the diagnostic criteria for somatoform disorder included age of onset below 30 years, 4 pain symptoms, 2 gastrointestinal symptoms, 1 sexual problem and 1 pseudo-neurological symptom after exclusion of other potential differential causes.

Epidemiology

- **Western Countries**
  - **Prevalence** (USA): 0.2-2% of women, 0.2% of men
  - **Gender**: F:M = 5:1
  - **Demographic**: especially prevalent among patients with little education, lower socioeconomic class
  - **Psychiatric Comorbidity**: antisocial personality disorder
- **Singapore**
  - Depression and somatisation are related to self-reported muscle pain
  - Severe somatisation may be associated with an increase in jaw disability

Aetiology

- **Genetics**: genetic linkages have been proposed as a result of the increase in prevalence (10-20%) of somatisation disorder among family members
- **Learning theory**: a person learns somatisation from a parental figure
- **Psychodynamic theory**: somatisation symptoms are repressed impulse
- **Other psychological factors**: alexithymia (lack of language to describe emotion; describe emotion in terms of physical complaints)
- **Psychosocial factors**: include dysfunctional family relationship, past history of abuse in the family, low social economic status, education

Differential Diagnoses

- Exclude other medical disorders first
- Psychiatric Differentials
  - Depression
  - Anxiety
  - Body dysmorphic disorder
  - Substance abuse
  - Psychotic disorder
  - Personality disorder
  - Adjustment disorder or grief
  - Factitious disorder

Differentiating Somatisation from Other Medical Disorders

- Somatisation disorder
  - Does not involve any laboratory abnormality
  - Presents with a wide range of symptoms which may not correspond to current anatomical and physiological knowledge

- Has an early onset and chronic course
- May follow a traumatic event
- Is associated with antisocial personality trait (based on US findings)

Management

- **General Principles**
  - **Regular appointments**: patients diagnosed with somatisation disorder should have a fixed, regular physician whom they can seek help from and be seen by on a regular basis
  - **Avoid unnecessary investigations** but physical examination should be performed if new complaints arise
  - **Offer empathy** to sufferings experienced by the patient
  - **Avoid polypharmacy**: review unnecessary medications and advise patients to avoid medications which cause dependency (e.g. opioid analgesics)
- **Pharmacotherapy**
  - **SSRI** for somatisation disorder
  - **SNRI** for somatoform pain disorder
- **Psychotherapy**
  - Self-help techniques, supportive psychotherapy, cognitive behaviour therapy (e.g. challenge cognitive distortions, activity scheduling to enhance physical activities)
- **Social/Occupational**
  - Refer to job agencies (e.g. Community Development Council for job referral)

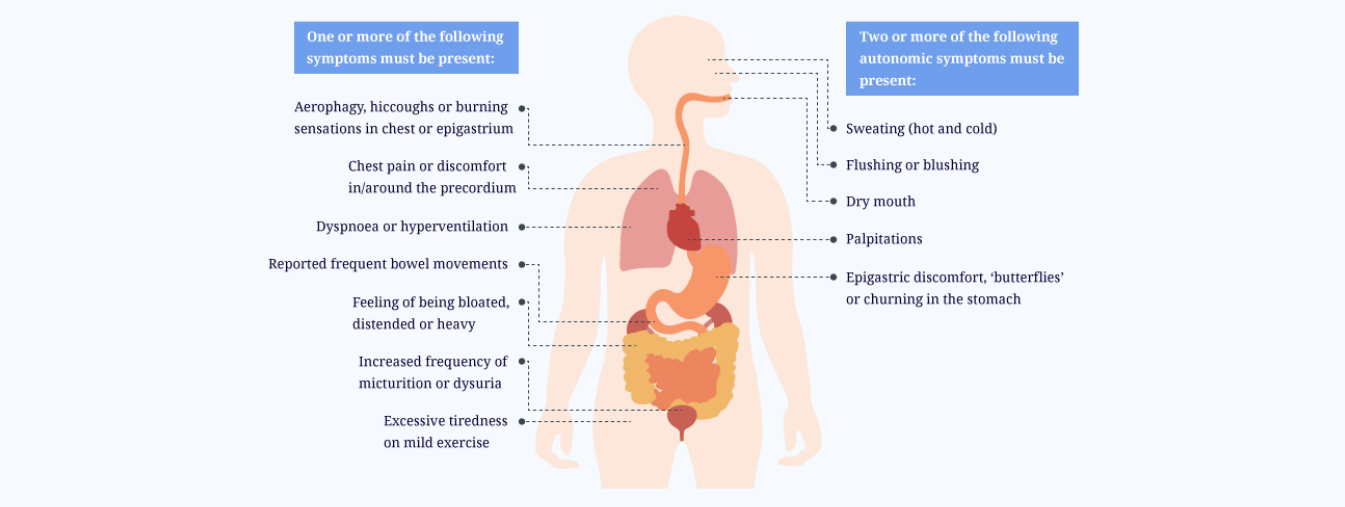
13.1.2 Somatoform Autonomic Dysfunction

Core Criteria

There must be symptoms of autonomic arousal that are attributed by the patient to a physical disorder of one or more of the following systems or organs:

- Heart and cardiovascular system
- Upper gastrointestinal tract (oesophagus and stomach)
- Lower gastrointestinal tract
- Respiratory system
- Genitourinary system

Figure 13.2 *Somatoform Autonomic Dysfunction*


One or more of the following symptoms must be present:
Aerophagy, hiccoughs or burning sensations in chest or epigastrium
Chest pain or discomfort in/around the precordium
Dyspnoea or hyperventilation
Reported frequent bowel movements
Feeling of being bloated, distended or heavy
Increased frequency of micturition or dysuria
Excessive tiredness on mild exercise
Two or more of the following autonomic symptoms must be present:
Sweating (hot and cold)
Flushing or blushing
Dry mouth
Palpitations
Epigastric discomfort, 'butterflies' or churning in the stomach

13.1.3 Persistent Somatoform Pain Disorder

Definition

There is persistent severe and distressing pain (for at least 6 months and continuously on most days), in any part of the body, which cannot be explained adequately by a physiological process or a physical disorder.

Epidemiology

- Commoner in women (F:M = 2:1)
- Commoner in older patients (40-50s)

Somatoform Pain Disorder and Depression

- **Biological theory**
  - Increase in cortisol levels
  - Decrease in immune functions
- **Psychological theory**
  - Learned helplessness as no relief of chronic pain
  - Role transition as a result of pain
  - Secondary gain: attention from family members

Acute pain (< 6 months) is associated with anxiety disorder whereas chronic pain (> 6 months) is associated with depressive disorder.

Management

- **Non-pharmacological**
  - **Cognitive therapy**: ask the patient to review thoughts and beliefs with regards to chronic pain
  - **Behaviour therapy**: involves enhancement of pre-existing activity levels and encouraging positive coping behaviours
  - **Family support**: educate partner/spouse on how to respond to pain
  - **Problem solving techniques**
- **Pharmacological**
  - **Antidepressants (e.g. SNRI)**: may reduce depression and anxiety associated with pain

13.2 Illness Anxiety Disorder (Hypochondriacal Disorder)

Epidemiology

- **Western Countries**
  - Estimated prevalence: 4-6 %
  - Men and women are equally affected
  - Commonly affects individuals between the ages of 20 to 30 years
- **Singapore**
  - No local epidemiology figures
  - In clinical practice: not uncommon to see patients develop illness anxiety about HIV infection
    - Associated with guilt of casual sex, poor knowledge of transmission of HIV and sexually transmitted disease

Aetiology

- **Misinterpretation and amplification**: patients with hypochondriacal disorder tend to have lower threshold for physical discomfort and misinterpret and attribute their bodily symptoms to more sinister conditions
- **Social learning and sick role**: the sick role offers secondary advantage allowing the individual to be free from certain obligations and their usual duties
- **Variant of other mental disorders** e.g. severe depressive disorder

DSM-5 Diagnostic Criteria

There must have been excessive preoccupation with illness for a minimum of at least 6 months. These include symptoms such as somatic symptoms, which even if present are mild, pervasive anxiety about health, and excessive health related behaviours such as repeatedly checking for signs of illness and/or maladaptive avoidance such as avoiding doctors' appointments and hospitals.

Differential Diagnoses

Other medical disorders should be excluded.

Differentiating between Somatoform Disorder and Hypochondriasis

- Patients with hypochondriasis are concerned of having a particular disease or disorder
- Patients with somatoform disorder are concerned with the number and extent of the symptoms they have

Differentiating between Body Dysmorphic Disorder (BDD) and Hypochondriasis

- BDD involves a concern of body defect while hypochondriasis involves concerns of having a serious illness
- BDD is associated with an increase in social phobia and compulsive checking
- Patients with BDD are interested in surgical correction while patients with hypochondriasis are interested in diagnostic workup

Management

The general approach is similar to that of somatoform disorder.

- **Non-pharmacological**
    - **Cognitive therapy**: involves reattribution and developing alternative explanations of concerns of serious illness; cognitive restructuring can modify dysfunctional assumptions
    - **Behaviour therapy**: involves self-monitoring of worries, negative thoughts and illness related behaviours; also involves exposure and response prevention and reducing repeated reassurance-seeking behaviours
- **Pharmacological**
    - **Psychotropic drugs (e.g. SSRIs)**: usually used to treat comorbidities such as depression

Prognosis

A good prognosis is favoured by the following factors:

- High social economic status
- Acute onset
- Treatment responsive (depression and anxiety)
- No underlying personality disorder
- No underlying medical problem

13.3 Body Dysmorphic Disorder

Epidemiology

- **Western Countries**
  - **Age of onset**: commonest 15-30 years
  - **Gender**: more common in women
  - **Demographic**: more likely to be single and unmarried
- **Singapore**
  - **Prevalence**: 29.4% of patients presenting to an aesthetic centre (warrants systematic screening for BDD)

Aetiology

- **Family history**: OCD or BDD
- **Biological factors**: reduction of serotonin
- **Psychodynamic theory**: displacement of unresolved conflict to a body part
- **Childhood**: rejection of others as a result of minor defect in the body
- **Social factors**: disharmonious family and culture which emphasises beauty

DSM-5 Diagnostic Criteria

Individuals with this disorder tend to have excessive preoccupation with perceived defects or flaws in physical appearance, to the extent that individuals perform repetitive behaviours (eg. repeated checking, excessive grooming or seeking reassurance) in response to the perceived defects. The preoccupation causes much distress and affects the individual's level of functioning.

Subtypes include:

1. With good or fair insight
2. With poor insight
3. With absent insight or delusional beliefs

Clinical Features

Patients with BDD have an imagined defect which leads to significant distress.

Common behavioural problems:

- **Social avoidance**: 30%
- **Suicide**: 20%
- **Self-injury**: 70-80%
- **Checking rituals** of body defect

Common reactions to imagined defects:

- **Camouflage**: 90%
- **Mirror check**: 90%
- **Compulsion**: 90%
- **Skin picking**: 30%.

Common body sites by frequency:

1. **Hair**: 63%
2. **Nose**: 50%
3. **Skin**: 50%
4. **Eye**: 30%
5. **Face**: 20%
6. **Breast** < 10%
7. **Neck, forehead and facial muscle**: < 5%

Differences between BDD and OCD

Compared to BDD, OCD patients:

- Are less likely to have social phobia
- Are less likely to attempt suicide
- Are less likely to misuse substance
- Have more insight
- Have better interpersonal relationships

Similarities between BDD and OCD

- Obsessions and compulsions are common in both disorders
- SSRI is the treatment for both disorders
- Both disorders cause significant distress

Comorbidities

1. **Social phobia**: 38%
2. **Substance**: 36%
3. **Suicide**: 30%
4. **OCD**: 30%
5. **Depression**: 20%

Management

- **Risk assessment**
    - Important as patients may perform self-operation, especially those rejected by various doctors for further treatment
- **Pharmacological**
    - **SSRIs** are indicated; 50% respond to SSRIs

    - **Second generation antipsychotics (e.g. risperidone)**: may be useful for patients with BDD exhibiting psychotic features
- **Psychotherapy**
    - CBT is useful; cognitive therapy provides cognitive restructuring and behaviour therapy prevents response such as frequent mirror checking of imagined defects

13.4 Conversion Disorder

Conversion disorder is defined as an illness associated with deficits in either motor or sensory function as a result of internal psychiatric conflict or secondary gain. Common symptoms include sudden paralysis of one limb or loss of vision after a traumatic event or conflict.

Video 13.1 *Conversion Disorder*

Epidemiology

- **Western Countries**
    - **Gender**: F:M = 2:1
    - **Demographic**: lower socioeconomic status has a relationship with conversion disorder
    - **Comorbidities**: depressive disorder (50%), anxiety disorder (40%)
- **Singapore** (Teo and Choong, 2008; retrospective study of 13 Singapore children)
    - **Commonest neurological symptom**: paralysis
    - **Presentations**: multiple complex conversion symptoms, neurological symptoms e.g. seizures, headaches
    - **Outcome**: majority had good outcome in terms of academic grades and social functioning

Aetiology

- **Biological factors**: decrease in metabolism of dominant hemisphere, increase in metabolism of non- dominant hemisphere, increase in cortisol arousal
- **Psychoanalytic theory**: conversion disorder is a result of the repression of underlying unconscious conflicts, with the subsequent conversion of anxiety symptoms into a physical symptom
- **Learning theory**: a person may acquire these dysfunctional learned behaviours (e.g. pretend to have a limp or blindness) in childhood to cope with difficult situations

Table 13.1 *Clinical Features of Conversion Disorder*

Motor Symptoms	1. Paralysis 2. Mutism 3. Gait disturbance (astasia-abasia commonly seen; patients noted to be ataxic, staggering while walking, and with irregular arm movements) 4. Pseudoseizure

Sensory Symptoms	1. Blindness 2. Tunnel vision 3. Anaesthesia/paraesthesia
Salient Features	1. Not congruent with anatomical and physiological knowledge 2. No structural change/damage 3. Vary with level of stress 4. Fluctuate in course 5. Inconsistent symptoms

DSM-5 Diagnostic Criteria

There must be at least 1 symptom of altered voluntary motor or sensory function, whose aetiology cannot be accounted for by existing neurological or medical conditions. The altered function must have resulted in marked impairments for the individual.

Subtypes according to symptomatology:

1. With paralysis or weakness
2. With abnormalities in movements
3. With swallowing symptoms
4. With epileptic seizures
5. With anaesthesia or sensory loss
6. With special sensory symptoms
7. With mixed symptoms

Differences between Seizure and Pseudoseizure

Table 13.2 *Differences between Seizure and Pseudoseizure*

	Pseudoseizure	Genuine Seizure
History of seizure	Absent	Present
Aura	Absent; anxiety may be present	Present
Stress-induced	Yes	No
Consciousness during seizure	Yes	No
Witnessed	Always (attention-seeking)	May or may not
Body movements during seizure	Asymmetrical	Symmetrical
Post-ictal confusion	Absent	Present
Prolactin	Not increased	Increased within 30 minutes
Injury as a result of seizure	Absent	Present
Incontinence	Absent	Present after seizure

	Pseudoseizure	Genuine Seizure
Electroencephalogram (EEG)	Normal	Abnormal

Management

- **Psychotherapy**
  - **Insight-oriented supportive therapy**
  - **Behaviour therapy**
- **Pharmacotherapy**
  - **SSRIs**: if comborbidities of depression and anxiety are present

Prognosis

Factors which favour a good prognosis include:

- High intelligence
- Good premorbid function
- Acute onset
- Clear stressor as a precipitant

65% of patients have complete recovery after an episode of conversion disorder.

13.5 Dissociative Disorders

Derealisation is now included with what was previously called depersonalisation disorder; the two are now termed depersonalisation/derealisation disorder. Dissociative fugue is now a specifier of dissociative amnesia rather than a separate diagnosis.

Nevertheless, it is still important to know clinically about the following:

Epidemiology

- **Western Countries**
  - Prevalence
    - **Dissociative amnesia**: 6% of general population
    - **Depersonalisation**: 19% of general population; F:M = 4:1
    - **Dissociative identity disorder**: F:M = 5:1
- **Singapore** (Ng, 2004; dissociative trance states in Singapore)
  - **Common stressors for trance**
    - Problems with military life (38%)
    - Conflicts over religious and cultural issues (38%)
    - Domestic disharmony and marital woes (24%)
  - **Positive predictors for trance**

- Conflicts over religious and cultural issues
- Prior exposure to trance states
- Being a spiritual healer/assistant to a spiritual healer

Aetiology

- **Dissociative amnesia**: as a result of severe psychological trauma, the patient temporarily and unconsciously shuts down the memory of all life events
- **Depersonalization** and **derealisation**: traumatic stress or fatigue (e.g. post-call in doctors)
- **Dissociative identity disorder**: maltreatment and severe childhood trauma are predisposing factors

Table 13.3 *Diagnostic Criteria of Dissociative Disorders*

Disorders	DSM-5 Diagnostic Criteria
Dissociative amnesia	Marked difficulties with recall of important information, usually pertaining to traumatic or stressful memories, that cannot be explained by normal forgetting
Dissociative fugue	• The individual undertakes an unexpected yet organised journey away from home or ordinary places • Self-care is largely maintained • There is amnesia (partial or complete) for the journey which also meets the criteria for dissociative amnesia; also includes confusion about personality identity and assumption of a new identity • Now a specifier condition instead under DSM-5
Dissociative stupor	• Profound diminution or absence of voluntary movements and speech; normal responsiveness to light, noise and touch • Normal muscle tone, static posture, breathing are maintained
Trance disorder	There is temporary alteration of state of consciousness, manifested by any two of: 1. Loss of usual sense of personal identity 2. Narrowing of awareness of immediate surroundings and selective focusing on environmental stimuli 3. Limitation of movements, postures and speech to repetition of a small repertoire
Possession disorder	The individual is convinced that he or she has been taken over by a spirit, power, deity or other person
Dissociative identity disorder / Multiple personality disorder	Characterised by the presence of two or more distinct personality states; the disruption in identity causes the following signs and symptoms: 1. Discontinuity in sense of self 2. Discontinuity in sense of agency 3. Changes in affect, behaviour, consciousness, memory, perception, cognition and sensory-motor functioning

Disorders	DSM-5 Diagnostic Criteria
	There must be repetitive gaps in memory that cannot be explained by ordinary forgetting, or as part of cultural or religious practice
Ganser syndrome	Giving approximate answers, psychogenic physical symptoms, hallucinations, apparent clouding of consciousness

Differential Diagnoses

- **Differentials for dissociative amnesia**: ordinary forgetfulness, organic disorders (e.g. dementia, delirium), post-traumatic amnesia, substance related amnesia, transient global amnesia
- **Differentials for depersonalisation**: medication-related side effects, substance abuse, post-traumatic stress disorder, schizophrenia, other dissociative disorders

Management

- **Dissociative amnesia**
  - **Non-pharmacological**
    - Supportive psychotherapy in the initial stage; consider CBT when the patient recovers from amnesia
    - Cognitive therapy helps to identify specific cognitive distortions, especially in trauma- related cognitive distortions
  - **Pharmacological**
    - Sodium amobarbital or diazepam in a process called abreaction to help patient to facilitate recall of traumatic events in a semi-conscious state; seldom performed nowadays
- **Depersonalisation disorder**
  - **Pharmacological**
    - SSRIs may be helpful in frequent depersonalisation disorder and comorbid depressive disorder
- **Dissociative identity disorder**
  - **Non-pharmacological**
    - Supportive psychotherapy in the initial stage; consider CBT when the patient is stable
    - CBT is useful in dealing with multiple cognitive distortions
  - **Pharmacological**
    - Antidepressants reduce depression and enable stabilisation of mood

13.6 Factitious Disorders

Epidemiology

- Prevalence (Western countries): 0.8%
- Commoner in women aged between 20-40 years
- Commoner in patients with background of medical-related fields e.g. medical laboratory technician, paramedics, allied health workers

Classification

There are four types of factitious disorder:

1. Predominantly psychiatric signs and symptoms
2. Predominantly physical signs and symptoms
3. Combined physical and psychiatric signs and symptoms
4. Munchausen syndrome (aka hospital addiction syndrome) or Munchausen syndrome by proxy (hospital addiction imposed on a child by his or her parent; a form of childhood abuse)

DSM-5 Diagnostic Criteria

- **Factitious Disorder Imposed on Self**
  - An individual must have presented himself as injured, impaired or ill to others, without the intention of gaining obvious external rewards.
- **Factitious Disorder Imposed on Another (previously by proxy)**
  - An individual must have presented another individual to others as injured, impaired or ill, without the intention of gaining obvious external rewards.
- **Additional Clinical Features**
  - Centre of attention
  - Dependent on others
  - Atypical and vague symptoms
  - Feeling of worthlessness
  - Long history with multiple Accident and Emergency Department visits
  - Involves pathological lying

Management

- **Treat psychiatric comorbidities** e.g. depression, anxiety
- **Pharmacological**: SSRIs can reduce impulsivity
- **Non-pharmacological**
  - **Supportive psychotherapy**: explore alternative behaviour to avoid frequent hospital admission
  - **Family therapy**: indicated in Munchausen syndrome by proxy.

13.7 Malingering

DSM-5 Diagnostic Criteria

- Intentional production or feigning of physical or psychological signs or symptoms
- Motivation is a result of external incentive (e.g. making a false claim of insurance)

Differences between Malingering and Conversion Disorder

Table 13.4 *Differences between Malingering and Conversion Disorder*

Criteria	Malingering	Conversion Disorder
Attitude toward mental health professionals	Suspicious, uncooperative, resentful, aloof, secretive, unfriendly	Cooperative; described as appealing, clinging and dependent
History	Tend to give every detail of accident or symptoms	Vague account of symptoms
Attitude toward physical examination and further investigations	Tries to avoid physical examinations and investigations to confirm diagnosis	Allows physical examination and investigations
Attitude toward employment	Refuses employment	More likely to accept employment

Key Learning Points

1. Patients with hypochondriasis are keen to investigate for underlying disease based on their symptoms whereas patients with somatoform disorder are concerned primarily with the number of symptoms.
2. Patients with hypochondriasis are keen for extensive diagnostic workup while patients with body dysmorphic disorder (BDD) are primarily interested in surgical correction of their perceived defect.
3. BDD is part of the OCD spectrum disorders which also includes hoarding and trichotillomania.
4. Locally, more than a quarter of patients presenting to an aesthetic centre have BDD and therefore systematic screening is warranted.
5. Commonest sites patients with body dysmorphic disorder are concerned about are hair, nose and skin.
6. Obsessive compulsive disorder patients are more likely to have better insight compared to BDD patients.
7. In risk assessment for BDD patients, always screen for the risk of self-operation in addition to other risks.
8. Pseudoseizures are more likely to be witnessed and not associated with injury as opposed to genuine seizures which may not always be witnessed and commonly associated with injury.
9. Malingering patients deliberately seek external gain, whereas patients with factitious disorder deliberately seek a sick role, and patients with somatisation involuntarily present with symptoms not seeking any gain.
10. SSRIs are useful as pharmacological treatment in almost all somatoform, body dysmorphic, hypochondriacal, conversion, dissociative and factitious disorders.

Revision MCQs and MEQs

MCQ

1. A 35-year-old unemployed man believes that he suffers from AIDS. He needs to go to a private hospital for monthly HIV test despite negative results. What is the diagnosis?

a. Conversion disorder
b. Dissociative disorder
c. Factitious disorder
d. Hypochondriacal disorder
e. Somatisation disorder

Answer:
This patient suffers from hypochondriacal disorder because he believes he has a serious illness (e.g. AIDS) without any laboratory evidence.

2. A 30-year-old unemployed man comes to the Accident and Emergency Department (AED) today and requests to be admitted. He mentions to the AED doctor that he will jump down from a building if he is not allowed to be admitted. Mental state examination reveals a cheerful man without any psychiatric signs. He has been admitted to various hospitals for 30 times in the past five years. There is no clear diagnosis and he seems to enjoy staying in the hospital. His mother has similar behaviour and his parents have financial difficulty because she used all their money admitting herself to various private hospitals. What is the diagnosis?

a. Conversion disorder
b. Dissociative disorder
c. Factitious disorder
d. Hypochondriacal disorder
e. Somatisation disorder

Answer:
This man suffers from Munchausen syndrome which seems to run in his family.

3. A 22-year-old national serviceman is admitted to the ward because he cannot remember his name, his current vocation and his personal information. He is brought in urgently by his camp medical officer. He has recently broken up from his girlfriend and he is very affected by this event. What is the diagnosis?

a. Conversion disorder
b. Dissociative disorder
c. Factitious disorder
d. Hypochondriacal disorder
e. Somatisation disorder

Answer:
This man suffers from dissociative amnesia.

MEQ

You are working as a GP in the neighbourhood. A 30-year- old woman requests a referral letter from you to the National Skin Centre for hair transplant. She has seen private dermatologists locally and abroad. She does not like her scalp and firmly believes that she has baldness but no dermatologist agrees with her. Physical examination reveals that she has a normal amount of hair and there is no sign of baldness. She tends to count the number of hairs lost when she washes her hair. She is very upset because she feels that she is losing more and more hair. She has frequently applied a '101' solution to her head to grow more hair. She frequently looks into the mirror to check her hair. She has good past health and is not taking medication on a regular basis.

1. Will you refer her to the National Skin Centre for hair transplant immediately?

Answer:
No

2. What is your diagnosis?

Answer:
Body dysmorphic disorder (BDD)

3. The patient believes that she suffers from obsessive compulsive disorder. How is your diagnosis in question 2 different from obsessive compulsive disorder? Name 3 differences.

Answer:
Patients with BDD tend to have more social phobia
Patients with BDD are more likely to attempt suicide
Patients with BDD are more likely to misuse drugs
Patients with BDD have less insight
Patients with BDD have poor interpersonal relationships

4. Name one question you would ask in risk assessment.

Answer:
Do you have plans to perform the hair transplant on your own if doctors at the National Skin Centre refuse to offer you a hair transplant? (assess risk of self-operation)
Do you have thoughts of ending your life? (assess risk of suicide)

5. Name one pharmacological agent which is useful in treating her condition.

Answer:
SSRI e.g. fluoxetine or fluvoxamine

6. Name one psychological intervention which helps to reduce repetitive checking in the mirror.

Answer:
Exposure and response prevention: ask patient to set a time limit (e.g. three hours without looking into the mirror)

EMIS

1. Depersonalisation is also described as:

a. 'As if' phenomenon
b. 'If not' phenomenon
c. 'What if' phenomenon
d. 'What next' phenomenon
e. 'Why me' phenomenon

2. Suggestibility is a prominent feature of:

a. Circumstantial thinking
b. Confabulation
c. Over-inclusive thinking
d. Perseveration
e. Tangentiality

3. A 50-year-old woman presented with a 6-year history of multiple physical symptoms not attributed to any physical causes. She has been seeking repeated consultations from her GP and various other specialists.

a. Dissociative amnesia
b. Dissociative fugue
c. Somatisation disorder
d. Possession disorder
e. Multiple personality disorder
f. Hypochondriacal disorder
g. Ganser syndrome
h. Munchausen syndrome

4. A 40-year-old male finds himself 20 miles away from his home for no apparent reason.

a. Dissociative amnesia
b. Dissociative fugue
c. Somatisation disorder
d. Possession disorder
e. Multiple personality disorder
f. Hypochondriacal disorder
g. Ganser syndrome
h. Munchausen syndrome

5. A 40-year-old prisoner who is awaiting his court trial keeps giving repeated wrong answers to questions, which are nonetheless in the right ballpark.

a. Dissociative amnesia
b. Dissociative fugue
c. Somatisation disorder
d. Possession disorder
e. Multiple personality disorder
f. Hypochondriacal disorder
g. Ganser syndrome
h. Munchausen syndrome

6. A 40-year-old woman is constantly preoccupied that she has breast cancer despite all necessary investigations showing that it is unlikely.

a. Dissociative amnesia
b. Dissociative fugue
c. Somatisation disorder
d. Possession disorder
e. Multiple personality disorder
f. Hypochondriacal disorder
g. Ganser syndrome
h. Munchausen syndrome

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Chapter 14
Consultation Liaison Psychiatry

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14.1 Consultation Liaison Psychiatry

The two models of working with general hospital patients are:

1. **Consultation**: with individual patients; patients are referred by medical or surgical teams for a psychiatric opinion
2. **Liaison**: a psychiatrist becomes an integrated member of a medical or surgical team, and develops a collaborative working relationship

Consultation Liaison Psychiatry in Singapore

The National University Hospital (NUH) was the first hospital in Singapore to establish a consultation liaison psychiatry service in 2002.

Need for Consultation Liaison Psychiatry in a Hospital Setting

- **Frequency of mental health problems**
  - 20-40% of all general outpatients and inpatients have some degree of psychological illness
  - 1/3 of patients in outpatient clinics have medically unexplained symptoms
  - 25% of male medical inpatients consume alcohol at a hazardous level in western countries
- **Recognition of problems**
  - Less than half of mental health problems in medical inpatients are recognised
  - Of these, less than 10% are referred for psychiatric assessment and follow-up based on findings from western countries
  - A liaison psychiatry service can contribute to the early detection and treatment of mental health problems
- **Effective delivery of mental health care**
  - In patients with chronic physical illnesses or whose psychiatric disorder is closely linked to inpatient treatment it is more convenient to refer them to an inpatient mental health service
- **Effective coverage for A&E**
  - 2-5% of patients attending A&E have primary psychiatric problems
  - 20-30% have significant psychiatric problems co-existing with physical disorders

14.2 Delirium/Acute Confusional State

Delirium is a common neuropsychiatric complication which often causes confusion in elderly patients following a major operation. Disturbed sleep-wake cycle is the most common symptom reported by patients suffering from delirium.

Epidemiology

- **Western Countries**
  - Delirium occurs in 10 - 30% of hospitalised medically ill patients, with higher rates in elderly (10 - 40%)
  - General surgery (10-15% delirious); cardiothoracic surgery (30%), Hip operation (50% delirious), elderly (older than 65 years) in ICU (70% delirious), palliative care (88% delirious)
- **Singapore**
  - Post-operative confusion is a common complication following hip fracture surgery; predictors include female gender and pre-fracture mobility
  - Incidence of emergency delirium in healthy, non-premedicated Singaporean children undergoing day surgery is approximately 10%; predictive risk factors include young age, poor compliance at induction, lack of intraoperative fentanyl use and rapid time to awakening

Aetiology

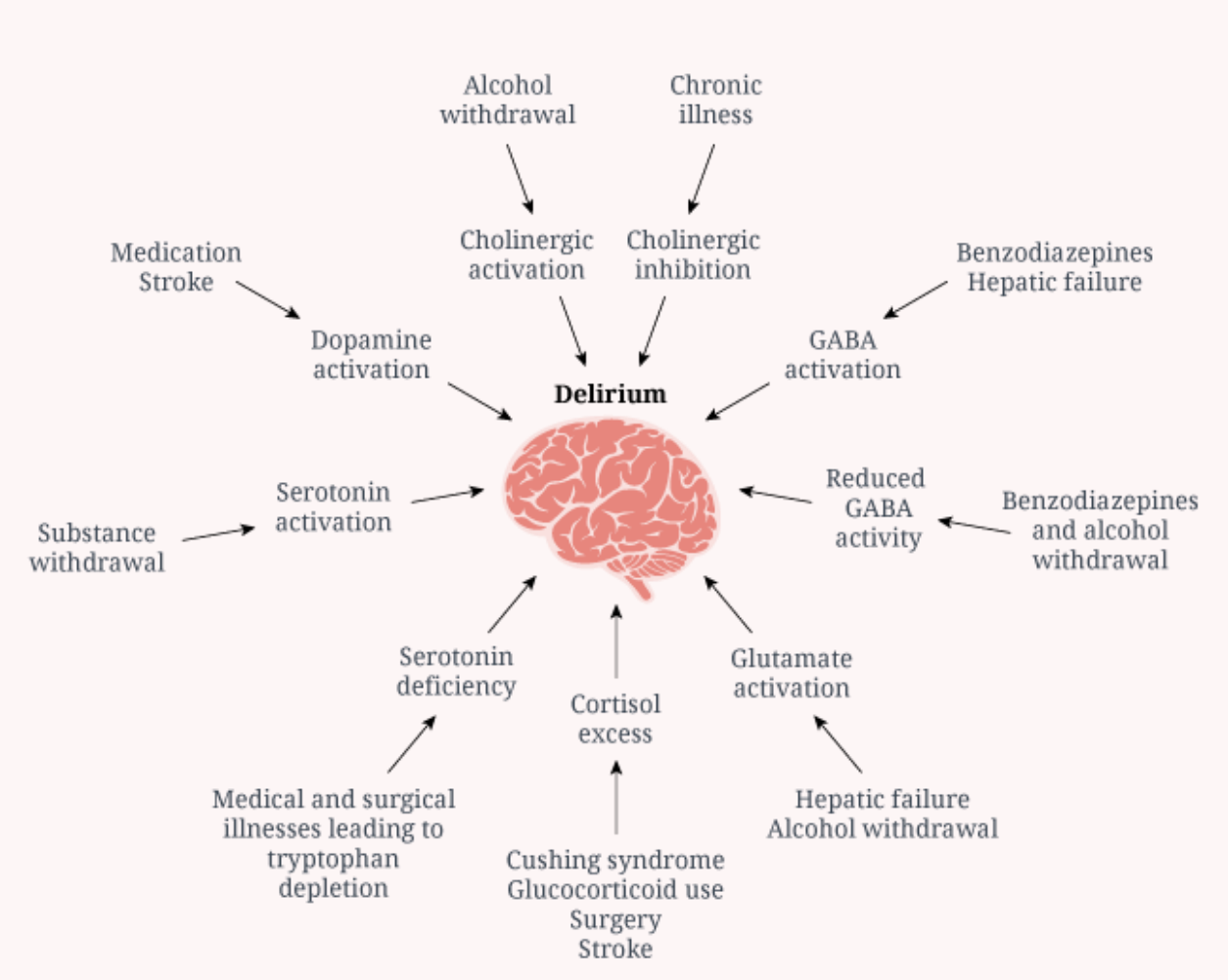
- **Underlying treatable medical causes**
  - Systemic infections
  - Drug intoxication/withdrawal: e.g. steroids, benzodiazepines, alcohol
  - Endocrine disorders and vitamin deficiencies (Addison's disease, thyroid disease, vitamin B12 insufficiency)
  - Wilson disease: autosomal recessive inheritance, Kayser-Fleischer ring on slit light lamp exam o Structural causes: head trauma, intracranial neoplasm
  - CNS infections
  - Hypotension
  - Metabolic encephalopathies: hyper or hyponatraemia, uraemia
  - Haematological disorders: severe anaemia, coagulopathy
  - Seizure disorders
- **Changes in patient environment**
- **Recent alteration in medication** e.g. antibiotics and naproxen

Risk Factors

- Risk factors for developing delirium include:
  - Old age
  - Polypharmacy (e.g. steroids)
  - Anaemia
  - Electrolyte disturbance
  - History of substance misuse

Pathophysiology

Figure 14.1 *Risk Factors and Pathophysiology of Delirium*



DSM-5 Diagnostic Criteria

There must be:

1. Changes in attention and awareness
2. These changes or disturbances must have developed over a short duration of time (usually characterised as within hours to few days) and represent a change from baseline attention and awareness

These disturbances are noted to be fluctuating during the course of a day.

3. In addition, there must be changes with regards to cognition (memory deficits, disorientated, language, visuospatial ability or perception)

4. There is evidence from clinical histories, physical examination and also biochemical investigations that the disturbances have arisen due to physiological consequences of a medical condition, substance intoxication or withdrawal or due to multiple aetiologies.

The DSM-5 specifies several aetiologies, including:

1. Substance intoxication delirium
2. Substance withdrawal delirium
3. Medication induced delirium
4. Delirium due to another medical condition
5. Delirium due to multiple aetiologies

Time course

Acute delirium usually last for a few hours or days, whilst persistent delirium last for weeks or months.

Subtypes

1. **Hyperactive**: individuals have a hyperactive level of psychomotor activity which may be accompanied by mood lability, agitation, and refusal to cooperate with medical care
2. **Hypoactive**: usually accompanied by marked sluggishness and lethargy which approaches stupor
3. **Mixed level of activity**: individuals have normal level of psychomotor activity even though attention and awareness are disturbed

Hyperactive delirium is more easily identified and frequently presents with anxiety, agitation or over psychotic symptoms, whereas hypoactive delirium is more difficult to diagnose and may present with depression-like symptoms of hypersomnolence and social withdrawal. Both forms of delirium respond to psychiatric treatment.

Management

The primary objective in treating delirium is to identify and treat the underlying aetiology. The treatment team needs to monitor vital signs, fluid input and output, and oxygenation. The treatment team should perform regular laboratory investigations (30% of patient have negative investigation results and the underlying cause cannot be elucidated), discontinue unnecessary medications, rehydrate the patient if necessary and identify sources of pain. Generalized slowing is a common EEG finding.

- **Non-Pharmacological**
    - Place the patient in a room near the nursing station
        - Room should be quiet and provide a calm environment with day and night lighting
    - Minimise transfers
    - Encourage the presence of family members

    - Proposed model for delirium care in Tan Tock Seng Hospital
        - No mechanical restraints
        - Thrice-daily patient orientation via reality orientation board
        - Thrice-daily cognitive stimulation
        - Early mobilisation
        - Provision of visual or hearing aids
        - Rehydration via oral feeding
        - Sleep enhancement via warm milk, relaxation tapes or music
        - Bright light therapy from 6 to 10 pm
        - Minimise immobilisation equipment such as IV dripsor Foley catheter
        - Encourage family members to visit daily
- **Pharmacological**
    - **Symptomatic**
        - **Antipsychotics**:
            - Delirious patients usually respond to daily doses equivalent to 0.5-5.0mg of haloperidol
            - Avoid extrapyramidal side effects by using the lowest effective dose or second-generation antipsychotics e.g. risperidone/olanzapine
            - Beware of increased risk of cerebrovascular accident in using second-generation antipsychotics
            - Can slowly reduce the dose once the patient becomes less confused; stop 7-10 days after delirious symptoms resolve
    - **Benzodiazepines, anticholinergics**: avoid as these can make the patient more confused
    - **Pain management**: important in treatment of delirious patients

Prognosis

- **Course**: ranges from less than 1 week to 2 months; typically 10 - 12 days
    - Repeat comorbidity scoring, duration and severity of delirium, cognitive, functional measures at baseline, 6 months and 12 months later
- **Complications**:
    - **Mortality**: 6 - 18% (risk is increased by 2 times compared to normal controls)
    - **Persistent cognitive impairment**: 60%
    - **Dementia**: risk increased by 3 times

14.3 Common Psychiatric Issues

Adjustment Disorder

- **Prevalence**: occurs in approximately 25% of medical patients
- **Aetiology**: related to all aspects of physical illnesses or treatment e.g. after receiving diagnoses of serious illnesses and loss of physical health

Anxiety and Depressive Disorder

- **Prevalence**: twice as common in medical patients as in general population
- **Associations**:
    - Particularly common among in patients with physical illnesses affecting the brain e.g. stroke
    - Occur more often in patients with painful, chronic or life-threatening illnesses e.g. heart disease, rheumatic arthritis
- **Instrument**: Hospital Anxiety and Depression scale is good for assessment in medical patients
- **Singapore findings:**
    - **Zhangetal (2011)**: prevalence of depression in COPD is 24.6%
    - **Ho et al (2011)**: 26% of RA patients at NUH presented with anxiety, 15% with depression, 11% with both
    - **Maketal (2011)**: frequency and level of anxiety significantly higher in SLE patients than patient with gout, RA and healthy controls in NUH

Somatic Symptoms of Depression

- **Prognosis**: poor indicator of depression in medically ill patients
- **Clinical Features**: fatigue, weight loss, pain and insomnia may be a result of physical illnesses rather than depressive disorders; mood (e.g. fearfulness) and cognitive symptoms (pessimism, hopelessness, cognitive errors e.g. overgeneralisation) are more specific for depression in medical patients

Capacity Assessment

- E.g. a psychiatrist is consulted to assess the capacity of a patient suffering from schizophrenia and chronic renal failure as she is refusing renal dialysis

14.4 Cardiovascular Disease and Psychiatry

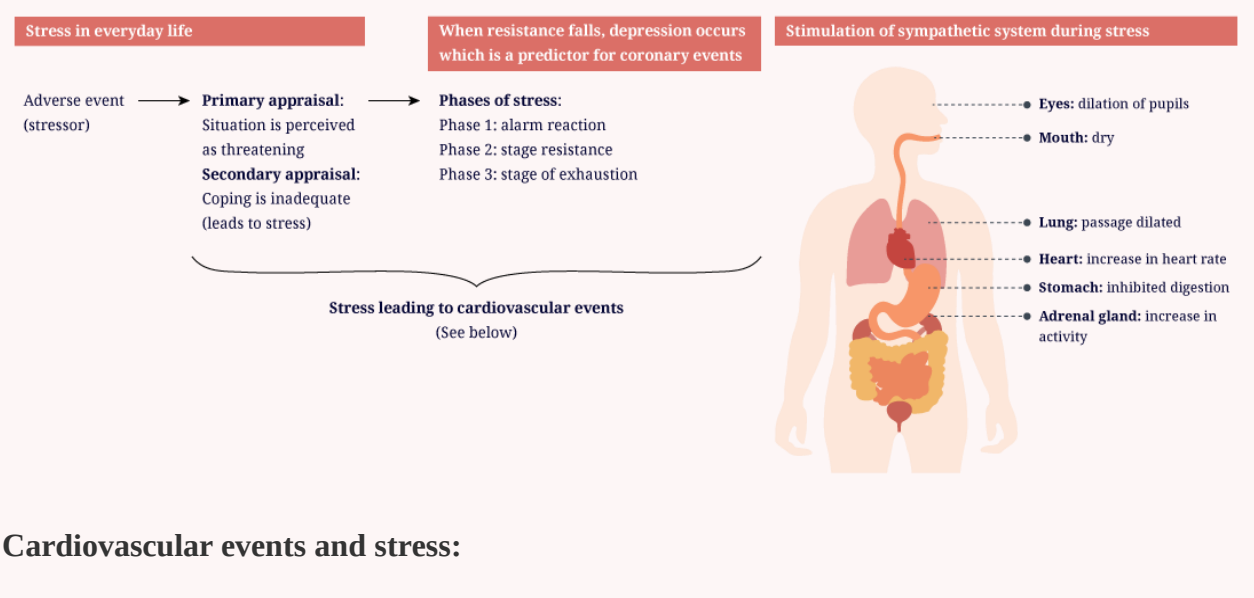
Medications

- **Antipsychotics**: may cause prolonged QT interval leading to potentially lethal arrhythmia
- **Antidepressants**:
    - **Concomitant myocardial infarction and depression**: sertraline is recommended
    - **Concomitant warfarin use and depression**: mirtazapine is recommended
- **Elderly at risk of cardiac pathology**: avoid rapid escalation of dose

Table 14.1 *Maudsley Guidelines Recommendations on Choice of Psychotropic Medication in Patients with Concomitant Atrial Fibrillation (AF)*

	Recommended	Not Recommended
Antipsychotics	Aripiprazole	• Clozapine • Olanzapine • Paliperidone
Antidepressants	Mirtazapine (as AF patients often take NSAIDs and warfarin)	Tricyclic antidepressants
Mood Stabilisers	• Lithium • Valproate	NIL
Hypnotics	Benzodiazepines	NIL
Dementia	Rivastigmine (but beware of bradycardia), memantine	Avoid other acetylcholinesterase inhibitors in paroxysmal 'vagal' AF

Figure 14.2 *Pathophysiology in Cardiovascular Medicine and Psychiatry*


Stress in everyday life
When resistance falls, depression occurs which is a predictor for coronary events
Stimulation of sympathetic system during stress
Adverse event (stressor)
Primary appraisal: Situation is perceived as threatening
Secondary appraisal: Coping is inadequate (leads to stress)
Phases of stress: Phase 1: alarm reaction Phase 2: stage resistance Phase 3: stage of exhaustion
Stress leading to cardiovascular events
(See below)
Eyes: dilation of pupils
Mouth: dry
Lung: passage dilated
Heart: increase in heart rate
Stomach: inhibited digestion
Adrenal gland: increase in activity

Cardiovascular events and stress:

Coronary artery disease (CAD) and stress	Hypertension and stress	Ventricular Arrhythmia and stress
The mental stress of ordinary life is the most common precipitant of myocardial ischaemia in patients with CAD. Type A behaviour (aggressiveness, impatience, hostility) can increase the incidence of recurrent	Psychosocial stress increases adrenaline and noradrenaline levels, which subsequently increases peripheral vascular resistance, resulting in hypertension and hypertrophy of the heart.	Both the brain and the peripheral sympathetic nervous systems are implicated as causes of stress-induced arrhythmias. An acute emotional trigger, often provoking anger, is an immediate precipitant of

Coronary artery disease (CAD) and stress	Hypertension and stress	Ventricular Arrhythmia and stress
myocardial infarction (MI) and cardiac death in previous MI. 20% of people with acute MI suffer from depressive disorder.		arrhythmia in patients with a relatively chronic state of helplessness. Helplessness is an underlying sense of entrapment without possible escape. Arrhythmia can lead to sudden cardiac death.

14.5 Liver Impairment and Psychiatry

Most psychotropic drugs are extensively metabolised by the liver. Liver disease is likely to lead to an impairment of drug metabolism and increased drug plasma levels. As a rule of thumb, the starting dose of psychotropic medications should be lowered in patients with liver impairment.

Table 14.2 *Maudsley Guidelines Recommendations on Psychiatric Prescription in Concomitant Liver Disease*

	Indicated	Contraindicated
Antipsychotics	• Haloperidol: low dose • Sulpiride: no dose reduction if renal function is normal	Antipsychotics with extensive hepatic metabolism e.g. chlorpromazine which gives rise to anticholinergic side effects
Antidepressants	• Paroxetine • Citalopram	TCA (give rise to constipation) Fluoxetine (long half- life causing accumulation of metabolites)
Mood Stabilisers	Lithium	Carbamazepine (induces hepatic metabolism) Valproate (highly protein bound and metabolised by liver)
Hypnotics	• Lorazepam • Zopiclone	Diazepam (long half- life)

14.6 Renal Impairment and Psychiatry

Advanced uraemia causes lethargy, asterixis, myoclonus, deterioration in total intelligence, and impairment in working memory. Dialysis can improve uraemic encephalopathy. Sexual dysfunction and impaired quality of life continue during dialysis.

Renal impairment is important in drugs or active metabolites which are dependent on the kidney for elimination (e.g. lithium). Furthermore, renal function declines with age.

Table 14.3 *Maudsley Guidelines Recommendations on Psychiatric Prescription in Concomitant Renal Failure*

	Indicated	Contraindicated
Antipsychotics	• First-generation antipsychotic: haloperidol 2-6mg/day • Second-generation antipsychotic: olanzapine 5mg/day	Sulpiride (renally excreted)
Antidepressants	• Escitalopram • Sertaline	Tricyclic antidepressant (due to anticholinergic effects)
Mood Stabilisers	• Valproate • Carbamazepine • Lamotrigine	Lithium
Hypnotics	• Lorazepam • Zopiclone	Diazepam (long half- life)

Table 14.4 *Electrolyte Disturbances and Psychiatric Manifestations*

	Hypo ↓	Hyper ↑
Sodium	**Causes**: antidepressants, lithium, carbamazepine, diuretics, SIADH, compulsive water drinking **Neuropsychiatric features**: anorexia, fatigue, headache confusion and convulsion (if Na < 115)	**Causes**: dehydration, diarrhoea, CNS lesions, severe burns **Neuropsychiatric features**: reduced consciousness (Na > 160), confusion, stupor, coma (if sodium is very high)
Potassium	**Causes**: vomiting, nausea (in bulimia nervosa), laxative addiction, diuretics, hypomagnesaemia, renal tubular acidosis, Cushing disease **Neuropsychiatric features**: muscular weakness, lethargy, drowsiness	**Causes**: excessive consumption of NSAIDs/potassium supplements, acute/chronic renal impairment, tumour lysis syndrome **Neuropsychiatric features**: weakness, sensory perception deficits, delirium
Calcium	**Causes**: hypoparathyroidism, phenytoin, secondary hyperparathyroidism	**Causes**: hyperparathyroidism, malignancy, chronic renal failure, dehydration

	Hypo ↓	Hyper ↑
	Neuropsychiatric features: weakness, depression, delirium, seizure	**Neuropsychiatric features**: anorexia, vomiting, nausea; late stage: drowsiness, depression, delirium, seizure
Magnesium	**Causes**: starvation, chronic alcoholism, acute intermittent porphyria **Neuropsychiatric features**: weakness, depression, delirium, seizure, hallucination	**Causes**: renal failure, magnesium-containing oral medication **Neuropsychiatric features**: drowsiness, weakness, coma

Table 14.5 *Acid-Base Disturbances and Psychiatric Manifestations*

	Metabolic Acidosis	Metabolic Alkalosis
Acid-base balance	**Causes**: starvation, alcohol, diabetic ketoacidosis, renal failure, severe sepsis **Psychiatric features**: fatigue, anorexia, hyperventilation, Kussmaul respiration, coma, convulsions	**Causes**: vomiting, chloride depletion **Psychiatric features**: irritability, hypoventilation, lethargy, confusion (pH > 7.55)

14.7 Endocrinology and Psychiatry

Hyperthyroidism

Fifty percent of patients present with psychiatric symptoms. Anxiety and depression are common. Depressive symptoms are not linearly related to thyroxine levels. Delirium occurs in thyroid crisis (3-4%). Psychosis is rare in hyperthyroidism (1%).

Hypothyroidism

Twenty percent of patients present with psychiatric symptoms. Fatigue accompanied by mental and physical slowing is a central psychiatric feature. Depression and anxiety are common. It is necessary to assess cognitive impairment. Myxoedema causes psychotic symptoms (paranoid delusions, auditory or visual hallucinations) and delirium.

Cushing Syndrome

Fifty to eighty percent of patients suffer from depression with moderate to severe symptoms. Depression will resolve after the control of hypercortisolism. Suicide has been reported in 3 to 10% of cases. Cognitive impairment such as amnesia and attentional deficits are common.

Addison Disease

90% of patients with adrenal disorders present with psychiatric symptoms. Memory impairment is common. Depression, anxiety and paranoia tend to have a fluctuating course with symptom free intervals. Psychosis occurs in 20% of patients. Fatigue, weakness and apathy are common in early stages of the disease. Adrenal crisis may lead to delirium.

Hyperparathyroidism

Disturbance of mood and drive are more prevalent. Depression may progress to psychosis and suicide. Delirium is caused by high calcium levels or parathyroid crisis. Cognitive impairment may present with impaired attention, mental slowing and impaired memory. Psychosis (5-20%) presents mainly in the forms of persecutory delusions and hallucinations.

14.8 Surgery and Psychiatry

Table 14.6 *Maudsley Guidelines Recommendations on Choice of Psychotropic Medication in Surgical Patients*

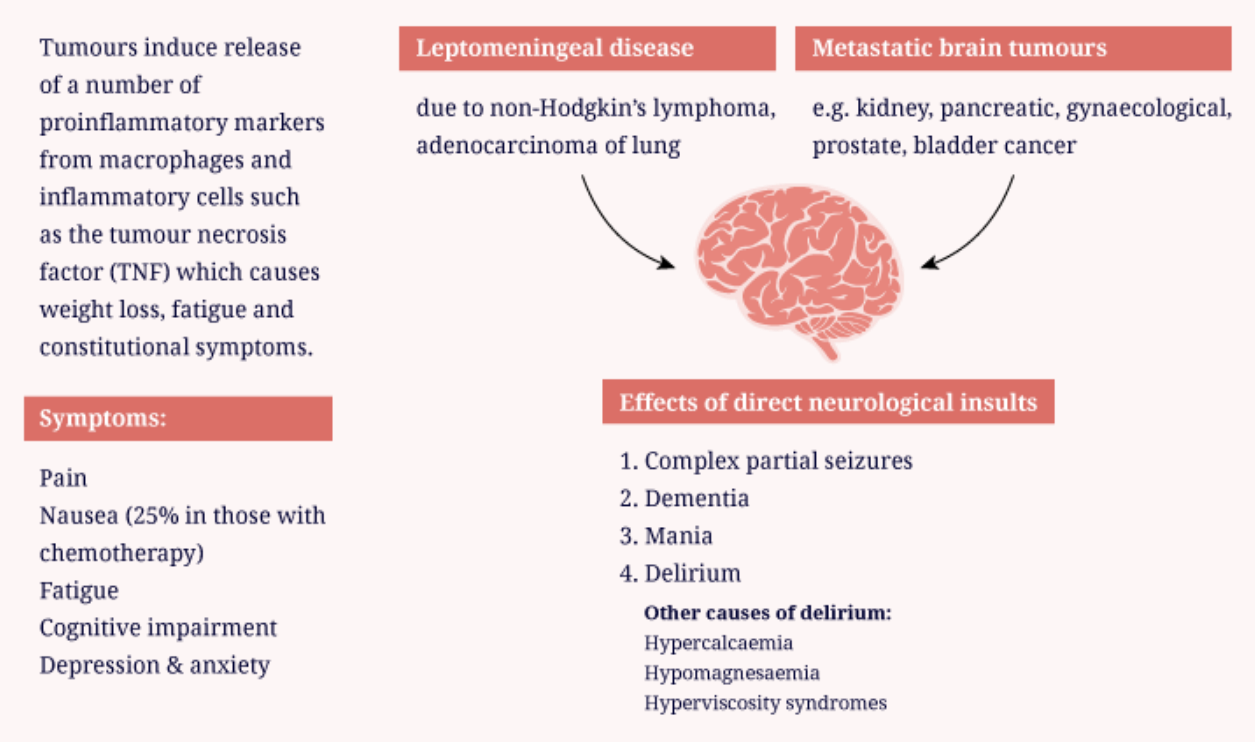
	Recommendations	Potential complications with surgery
Antipsychotics	Most antipsychotics are probably safe to continue	Clozapine may delay recovery from anaesthesia
Antidepressants	SSRIs should be stopped on the day of surgery (may increase bleeding time)	• MAOIs (irreversible): fatal interaction with pethidine • Combination of MAOIs (irreversible) and sympathomimetic agents: hypertensive crisis • TCA: Î± blockade leads to hypotension, prolonged QTc, lower seizure threshold; requires careful selection for anaesthetic agents
Mood Stabilisers	• Sodium valproate • Carbamazepine	Lithium: discontinue before major surgery (affects renal function, causes electrolyte disturbances)
Hypnotics	Most benzodiazepines are safe to continue	Benzodiazepines lead to reduced requirements for induction and maintenance of anaesthesia

14.9 Psycho-oncology

Epidemiology

25% of people with cancer suffer from depressive disorder.

Figure 14.3 *Pathophysiology of Cancer and Psychiatric Symptoms*


Tumours induce release of a number of proinflammatory markers from macrophages and inflammatory cells such as the tumour necrosis factor (TNF) which causes weight loss, fatigue and constitutional symptoms.
Symptoms:
Pain
Nausea (25% in those with chemotherapy)
Fatigue
Cognitive impairment
Depression & anxiety
Leptomeningeal disease
due to non-Hodgkin's lymphoma, adenocarcinoma of lung
Metastatic brain tumours
e.g. kidney, pancreatic, gynaecological, prostate, bladder cancer
Effects of direct neurological insults
1. Complex partial seizures
2. Dementia
3. Mania
4. Delirium
Other causes of delirium:
Hypercalcaemia
Hypomagnesaemia
Hyperviscosity syndromes

Neuropsychiatric Side Effects of Chemotherapeutic Agents

- Cognitive impairment/dementia due to leukoencephalopathy (cytosine arabinoside, methotrexate)
- Acute confusion (most agents)
- Psychiatric disorders
    - Manic and depressive symptoms (steroids, interferon causing depression)
    - Psychosis (procarbazine)
    - Personality change (cytosine arabinoside)
- Fatigue (fluorouracil, interleukin, interferon)
- Seizures (vincristine, vinblastine, alkylating agents)
- Anorexia (most agents)
- Neuropathies and sexual dysfunction (especially breast, ovary, uterus, cervical cancer)
- Cataracts (steroids)
- Anticholinergic effects (antiemetic agents)

14.9.1 OSCE

You are the medical resident receiving training in hepatology. Mr. A, a 40-year-old unemployed gentleman with a background of hepatitis C carrier status and intravenous drug abuse, complains of severe weight and appetite losses, progressive lethargy, yellowing of the eyes and skin and abdominal distension. He consults a hepatologist who finds that he has deep jaundice and gross ascites. A CT scan of the abdomen reveals multiple liver masses and peritoneal deposits. Ascites fluid analysis shows malignant cells, accompanied by a very high serum α-fetoprotein protein level. The diagnosis of advanced hepatocellular carcinoma is made and Mr. A is informed that he has a very limited life expectancy.

Task: address end-of-life issues and Mr. A's concerns.

Why am I so unlucky to get this cancer?

- Establish rapport and express empathically that you are sorry to hear what has happened.

Was it because I used drugs? Am I a bad person?

- For issues of guilt, encourage the patient to avoid blaming himself. You can encourage him by saying that those who do not use drugs can also develop liver cancer e.g. people who get hepatitis B from birth.

I hate looking at myself in the mirror. I look thin and my skin looks yellowish. What's wrong with me?

- Explore his perception of his body image and look for possible jaundice.

The gastroenterologist says there is no cure for hepatitis C. Wouldn't it be better to give up?

- Ask the patient to think about positive aspects of his life to look forward to and encourage him to fight the illness. Explore his view on his own death. Does he have any fear?

I am very worried that I will die soon. Will I die in severe pain? Can you just ask my doctor-in- charge to give me an injection and kill me? I don't want to suffer.

- Address his suffering: Is he willing to ask for more pain control? Address the diversity of experiences of pain. Explain that euthanasia is illegal in Singapore and not an option.

Explore his reasons for asking about this and discuss alternatives such as enhancing his pain management.

My mother doesn't know I have cancer. How should I tell her? She will be very sad. I am worried my family will not want me as I am a burden to them.

- Explore his relationship with his family and his concerns regarding informing his mother of his diagnosis. Also inform him of the risks of hiding his illness from other family members. Address his concern as a burden and his concern of being abandoned.

Is there God? I have committed crimes and used drugs. Will I be forgiven?

- Explore spiritual issues and his religious faith. Does he feel guilty about his past? Explore the need to be forgiven and who should forgive him e.g. God, family or friends.

You are a psychiatrist and I need your emotional support. Will you stay with me until the day I die?

- Explain boundaries and your schedule in an empathetic way: you will visit him regularly. Get other friends or caregivers involved to reach a conjoint effort.

14.10 Neuropsychiatry

Table 14.7 *Neuropsychiatric Consequences in HIV Infection and Common Neurological Disorders*

Cognitive impairment	Psychosis	Depression	Mania	Anxiety-related disorder	Other disorders
HIV infection (neurological and neuropsychiatric sequelae develop in more than 50% of people of advanced HIV disease.)					
Course: Singapore (Chan et al 2012): HIV-associated cognitive disorder (HAND) occurs in 22.7% of HIV patients. Older patients with less education and severe illness are at highest risk of	**Symptoms**: Paranoia is common. **Treatment**: Olanzapine / risperidone can be used but need to monitor for metabolic syndrome	**Frequency**: 30-50% **Symptoms**: • Apathy • Amotivation • Anergia • Cognitive impairment	**Symptoms**: Secondary mania is common. **Treatment**: Valproate is well tolerated. Olanzapine/ risperidone is indicated for	**Symptoms**: Anxiety is common. **Treatment**: For anxiety: use SSRI such as escitalopram. For mixed anxiety and depression:	**Neuropathic pain**: treatment involves TCA but make sure patient has no tendency to take an overdose of TCA. Insomnia: treatment

Cognitive impairment	Psychosis	Depression	Mania	Anxiety-related disorder	Other disorders
HAND. Delayed recall is most commonly affected. Visuospatial dysfunction is most strongly associated with prevalent HAND. **Mild cognitive impairment** in the early stage: 70-80% Fluctuation in the first 2 years **Associated dementia complex** in the later stage: 30%		**Treatment**: Use SSRIs with the least drug interaction e.g. escitalopram **Suicide risk**: increase by 30 times.	impulsivity, agitation, disinhibition.	use venlafaxine but need to monitor blood pressure if dose > 300mg/day Non-benzodiazepine: Hydroxyzine (antihistamine) is recommended.	includes sleep hygiene, lorazepam (long acting without active metabolites) for 2 weeks or hydroxyzine (antihistamine) **Sexual dysfunction Eating disorders Chronic pain**: 80% **Delirium**: 30%.
Cerebrovascular accidents (CVA)					
30% of stroke patients show severe cognitive impairment.	Complex auditory and visual hallucinations called peduncular hallucinosis occur in people with infarct in pons and midbrain.	30% suffer from post- stroke depression. 55% suffer from post- stroke depression. Right-sided stroke is associated with depression.	Possible in people with CVA, especially left-sided stroke.	Common in people with CVA.	6% develop seizures. 50% die within 3 years.
Parkinson Disease (PKD)					
Frequency: 25-40% dementia **4 types of cognitive**	**Frequency**: 30% have hallucinations (usually visual hallucinations)	**Frequency**: 40% of people with PKD develop depression follow diagnosis; 1-2% of patients	Uncommon	Often mixed with depression	Personality change include being more introverted, over-

Cognitive impairment	Psychosis	Depression	Mania	Anxiety-related disorder	Other disorders
impairments in PKD: 1. Generalised global dementia 2. Focal and specific cognitive deficits 3. Drug-induced 4. Depression-related	**Risk factors**: • Greater age • Longer duration of illness • Coexisting cognitive impairment • Depression • Sleep disturbance • Poor visual acuity.	with PKD develop severe depression Diagnosis is difficult to make because of the flattened affect. Hence biological symptoms are given more weight in diagnosing depression.			controlled and exhibit anhedonia.
Epilepsy					
Epileptic dementia: rare in epilepsy patients.	**Frequency**: 3% in epilepsy patients. **Schizophrenia**: The risk is 2-3 times more likely as compared to the general population. **Other forms of psychosis**: post-ictal, brief inter-ictal and chronic inter-ictal.	**Frequency**: 9 - 22% of epilepsy patients. The risk is 17 times more likely when compared to the general population. Patients are 25 times more likely to attempt suicide when compared to the general population.	Uncommon in people with epilepsy.	Often mixed with depression	**Pathological aggression**: 4-50% **Crime offences**: 3 times more likely to commit crime when compared to the general population
Head injury					

Cognitive impairment	Psychosis	Depression	Mania	Anxiety-related disorder	Other disorders
The important predictor of cognitive impairment is the duration of post traumatic amnesia.	**Frequency**: Schizophrenia 2.5% Paranoid psychosis 2%.	Depression and anxiety are common. Frequency of psychotic depression is 1%.	Frequency of secondary mania is 9%.	Anxiety is common.	Personality change is common after frontal lobe injury. 50% of patients with head injury develop post concussion syndrome (cognitive impairment, irritability).

Post-Concussion Syndrome (PCS)

Video 14.1 *Man who has memory problem*

PCS usually occurs after minor head injury and it is associated with premorbid physical and social problems. The duration usually lasts from several weeks to 3 months and it is more likely to be persistent in women.

Common physical symptoms include:

- Headache
- Nausea
- Sensitivity to light and noise

Common psychiatric symptoms include:

- Cognitive impairment
- Poor concentration
- Irritability

Systemic Lupus Erythematosus (SLE)

Psychiatric symptoms of NPSLE include:

- Acute confusional state (<1%)
- Cognitive dysfunction (55-80%)
- Mood disorder (14-57%)

- Psychosis (0-8%)

14.11 Women's Mental Health

Psychiatric disorders related to women's mental health are classified as antenatal and postnatal psychiatric disorders.

14.11.1 Antenatal Psychiatric Disorders

Self-limiting minor depressive illness and generalised anxiety are common in the first trimester. Most studies of the aetiology of antenatal depression have found a link between psychosocial problems (e.g. marital conflict and a lack of support) and antenatal psychiatric disorders. Specific risk factors include previous termination of pregnancy, ambivalence towards the pregnancy and feeling anxious about pregnancy.

Bipolar Disorder

Risk of relapse is high in the first 90 days after delivery. Planning before pregnancy is important. The choice of psychotropic medication is based on the risk to benefit ratio of each drug (e.g. past treatment response and risk of teratogenic effect) and a conjoint decision is made between a psychiatrist and his or her patient.

Table 14.8 *Maudsley Guidelines Recommendations for Use of Psychotropic Medications in Pregnancy for Bipolar Disorder*

Mother and foetus	Mania	Bipolar depression	Not Recommended
The risk of relapse is high if medication is stopped abruptly. Lithium: Incidence of Ebstein's anomaly is between 0.05 to 0.1% (after maternal exposure to lithium in the first trimester). Valproate: Incidence of foetal birth defect (mainly neural tube defects) is 1 in 100. Carbamazepine: Incidence of foetal	☑ Mood stabilising antipsychotics: haloperidol, olanzapine. Olanzapine increases risk of gestational diabetes. ECT is indicated if antipsychotic fails.	☑ CBT for moderate bipolar depression Fluoxetine has the most data on safety and indicated for severe bipolar depression especially for those patients who have very few previous manic episodes.	☒ Valproate is the most teratogenic mood stabiliser. Lamotrigine requires further evaluation and it is not routinely prescribed in pregnancy. It causes oral cleft (9 in 1000) and Stevens-Johnson syndrome in infants.

Mother and foetus	Mania	Bipolar depression	Not Recommended
birth defect is 3 in 1000.			

= recommended

= not recommended

Depressive Disorder

Table 14.9 *Maudsley Guidelines Recommendations for Use of Psychotropic Medications in Pregnancy for Depressive Disorder*

Mother and foetus	Mania	Bipolar depression	Not Recommended
Patients at risk of relapse or developing moderate to severe depression should be treated with antidepressants. ECT is safe for pregnant women. SSRI causes pulmonary hypertension (after 20 weeksâ€™ gestation) in newborns. Neonates may experience withdrawal (agitation and irritability) especially with paroxetine and venlafaxine.	 Amitriptyline and imipramine TCAs have been used for many years without causing teratogenic effects	 Fluoxetine has the most safety data Paroxetine causes foetal heart defects in the first trimester and is more dangerous that other SSRIs	 • Moclobemide • Reboxetine • Venlafaxine • Bupropion • Mirtazapine These drugs should be avoided due to lack of safety data

= recommended

= not recommended

Schizophrenia

Table 14.10 *Maudsley Guidelines Recommendations for Use of Psychotropic Medications in Pregnancy for Schizophrenia*

Mother and Foetus	Antipsychotics and Other Treatment	Not Recommended
Low risk of relapse if medication is continued with good social support Antipsychotic discontinuation syndrome occurs in neonates; mixed breast/bottle feeding can minimise withdrawal	☑ • Haloperidol • Chlorpromazine • Trifluoperazine • Olanzapine (gestational DM and weight gain)	☒ • Depot antipsychotics • Anticholinergic drugs • Clozapine (agranulocytosis in foetus)

☑ = recommended

☒ = not recommended

14.11.2 Postpartum Psychiatric Disorders

Epidemiology

Table 14.11 *Postpartum Psychiatric Disorders*

	Postnatal Blues	Postnatal Depression	Puerperal Psychosis
Onset	3-5 days	2-4 weeks	1-6 weeks
Prevalence	50%	10-15%	0.2%
Duration	2-3 days	4-6 weeks (1 year if untreated)	6-12 weeks

Although the rate of postnatal depression is similar to the non-partum rates, the risk for developing severe depression is 5 times greater than the lifetime risk. Social deprivation is associated with higher risks.

The peak period for admission as a result of psychiatric problems usually occurs 3 weeks after delivery.

- **Singapore**
  - **Postnatal depression**: prevalence 7%; proposed need for early detection and intervention of postpartum mental illness amongst Singaporean mothers

    - **Suicide and psychiatric conditions**: not significant causes of maternal mortality; only one identified maternal death among 589 female suicides aged 15-45 years, occurring in a teenager within the first month postpartum
    - **Neonatal/infant medical visits**: women who brought their infants for three or more non-routine visits to the infant's doctor had a significantly higher prevalence of depression (32.6%) compared to those with fewer visits (13.6%)

Postnatal Blues

- **Aetiology**
    - No proven hormonal differences between those with and without postnatal blues, although temporal relationship to childbirth and frequency of postnatal blues make biological factors likely to be an aetiological factor
- **Risk factors**
    - Premenstrual tension
    - Previous gynaecological problems
    - Higher neuroticism scores
    - Marked change in salivary progesterone
    - Not associated with birth complications, caesarean section or bottle feeding
- **Clinical features**: anxiety, depression, tearfulness, emotional lability (highs and lows), irritability, apparent confusion, mild hypochondriasis
- **Complications**: greater risk of subsequent postnatal depression, particularly if severe blues
- **Management**
    - Usually resolves spontaneously
    - Pharmacological: not necessary
    - Non-pharmacological: support and reassurance

Postnatal Depression (PND)

- **Predictive factors**
    - Past history of psychopathology
    - Psychological disturbance during pregnancy
    - Poor marital relationship
    - Poor social support
    - Stressful life events
    - Low socioeconomic status
    - Obstetric complications
    - Old mother
    - Marital and family conflict
    - Substance abuse
    - Previous pregnancy loss
    - Ambivalence about current pregnancy
    - Frequent antenatal admissions for obstetric problems

- **Singapore**
    - 'Negative confinement experience' significant risk factor for postnatal depression; not universally welcomed by Singaporean women
- **Clinical features**: many features of depression will occur as a result of becoming a new mother and are less useful in detecting postnatal depression
- **Common symptoms**
    - Irritability
    - Tearfulness
    - Poorsleep
    - Tiredness
- **Common presentations**: (instead of low mood)
    - Feeling inadequate as a mother
    - Loss of confidence in mothering
    - Anxieties about the baby's health
    - Concerns that the baby is malformed
    - Reluctance to feed or handle the baby
    - Thoughts of harming the baby
- **Management**
    - **PND intervention programme in KKH**:
        - **Two phases**
            - Screening: using Edinburgh Postnatal Depression Scale (EPDS) and provided appropriate care plans
            - Individualised clinical intervention: using case management multidisciplinary team model
        - **Results**
            - Achieved 78% reduction in EPDS symptoms
            - About 70% had improved health quality scores
    - **Antidepressants**: (refer to Figure 14.4)
- **Prognosis**
    - 1 in 3 recurrence of severe postnatal depression in subsequent childbirth
    - Recurrence higher in women when PND is the first episode of depressive illness in their lifetime
    - Without treatment, 30% of women remain depressed at the end of one year

Puerperal Psychosis

- **Risk factors**
    - Past psychiatric history e.g. schizophrenia, mania
    - Past history of postpartum psychosis
    - Family history of psychiatric illness
    - Timing of onset implicates the role of reproductive hormones and rise in the level of dopamine; progesterone concentration in the blood falls about 1000-fold in the days after childbirth while oestrogen falls to a lesser extent; oestrogen increases serotonin levels and it has an anti-dopaminergic or anti-psychosis effect
- **Clinical features**
    - **Onset**: usually sudden

    - **Symptoms**: confusion, disorientation, lability of mood, manic symptoms, sleep disturbance, mild confusion
    - **Delusions and hallucinations**: may involve the baby and family
    - **Suicide and infanticide thoughts**: may be present, must be assessed
    - **May resemble**: schizophrenia, affective disorders (80%), organic illness e.g. delirium
- **Management**
    - **Admission to psychiatric ward**: prevent harm to baby and patient
    - **Antipsychotics**: (refer to Figure 14.4)
    - **Electroconvulsive therapy**: may be an option if antipsychotic drugs fail
- **Prognosis**
    - 20% of patients relapse in subsequent childbirth
    - 20% of patients develop bipolar disorder in later life

Breastfeeding and Psychotropic Medication

Figure 14.4 *Breastfeeding and Psychotropic Medication*

It is suggested that psychotropic drugs should be taken immediately after breast feeding, before the infant's longest sleep period, to avoid feeding during peak milk levels.

Premature infants, and infants with renal, hepatic, cardiac and neurological impairments are at a greater risk from exposure to psychotropic drug. Hence, use the lowest effective dose and avoid polypharmacy.

Recommended	Not recommended
Bipolar disorder: Valproate can be used but advise mother to ensure adequate contraception to prevent unexpected pregnancy **Depressive disorder**: Paroxetine and sertraline **Schizophrenia**: Sulpiride and olanzapine **Anxiety and insomnia**: Lorazepam for anxiety and zolpidem for insomnia; advise mother not to sleep with her baby to prevent accidents if the mother is over-sedated **Substance abuse**: Methadone is compatible with breastfeeding but dose has to be kept to a minimum	**Bipolar disorder**: Lithium (concentration in breast milk is 50% of serum concentration) **Depressive disorder**: Escitalopram and fluoxetine are present in breast milk at relatively high levels. Mirtazapine, venlafaxine **Schizophrenia**: Clozapine, aripiprazole, quetiapine, risperidone and depot antipsychotic (infants may show EPSE)

14.11.3 Substance Misuse and Pregnancy

Foetal Alcohol Syndrome (FAS)

Clinical features of FAS include:

1. **Growth**: pre- or postnatal growth deficiency
2. **CNS disorders**: including developmental delay, intellectual impairment, structural abnormalities
3. **Facial abnormalities**: short palpebral fissures, thin upper lip, flattened midface, indistinct philtrum

Tobacco Use

Clinical features include intra-uterine growth retardation, low birth weight and developmental delay in the child.

Cocaine Use

Clinical features include low birth weight, dose-dependent relationship with brain circumference and brain weight and motor abnormalities in infants.

Opiate Use

There is no evidence of increase in congenital defects with methadone; methadone is a safe option for pregnant women but a psychiatrist must be consulted. Up to 90% of infants born to opiate-dependent mothers show signs of withdrawal.

14.11.4 Premenstrual Syndrome (PMS)

PMS occurs from the day of ovulation to the onset of menstruation.

Epidemiology

40% of women experience symptoms of PMS and 5% meet the criteria of PMS with impairment in functioning. 30-40% of women with PMS have depressive disorder.

DSM-IV-TR Diagnostic Criteria

For this diagnosis to be made, there must be at least 5 out of the following 11 symptoms with marked social impairment:

1. Marked depression
2. Anxiety
3. Anger
4. Affective lability
5. Reduction in interest
6. Difficulty in concentrating
7. Lethargy
8. Lack of energy
9. Overeating
10. Hypersomnia or insomnia
11. Feeling overwhelmed
12. Other symptoms e.g. breast tenderness, headache, muscle pain

Management

- **Non-pharmacological**
    - **Dietary modification**: increase in complex carbohydrates and dietary fibre to 20-40g/day and reduce intake of refined sugar and salt
    - **Exercise**
    - **Cognitive therapy**
    - **Relaxation techniques**
- **Pharmacological**
    - SSRIs are effective and well tolerated in patients suffering from PMS

Key Learning Points

1. Delirium is commonly caused by medication, drug intoxication or withdrawal, central nervous system deficits, metabolic, endocrine, or autoimmune disorders, infection and post-operative states.
2. Management of delirium is largely non-pharmacological, although symptomatic treatment with medication is indicated where necessary.
3. Common issues seen in consultation liaison psychiatry include adjustment disorder, anxiety and depressive disorder, depressive somatisation, and assessment of mental capacity.
4. In pregnant mothers, the oldest available class of psychotropic medications is typically the safest for treating bipolar disorder, depressive disorder and schizophrenia.
5. All mood stabilisers are teratogenic and should not be routinely prescribed to pregnant mothers.
6. Postnatal blues have an onset of 3-5 days, while postnatal depression has an onset of 2-4 weeks, and puerperal psychosis has an onset of 1-6 weeks.
7. Postnatal blues usually resolve spontaneously and pharmacological management is not necessary.
8. Unique to the local context, a confinement period is commonly practised and is negatively received by many Singaporean women, resulting in significant risk of developing postnatal depression.
9. Common delusions in puerperal psychosis include believing that the baby has been replaced by an imposter or that the baby is a ‘demon-child’.
10. The manifestations of foetal alcohol syndrome are mainly hypoplastic and include growth deficiencies, short palpebral fissures, thin upper lip, flattened midface, and indistinct philtrum.

Revision MCQs and MEQs

MCQ

1. You are a GP working in the heartland. A 70-year-old woman suffers from depression and you started fluoxetine one month ago. Her daughter calls you and say that her mother is very confused and admitted to a general hospital. The doctor says that there is an electrolyte abnormality. Her daughter wants to know the relationship between recent antidepressant use and electrolyte abnormality. Which of the following electrolytes is most likely to be involved?

a. Calcium
b. Magnesium
c. Phosphate
d. Potassium
e. Sodium

Answer:
Antidepressant use is associated with hyponatraemia in the elderly.

2. A 30-year-old unemployed man comes to the Accident A 30-year-old woman with bipolar disorder is 12-week pregnant. She has been taking lithium every night. Which of the following abnormality may occur if she continues to take lithium?

a. Dandy-Walker syndrome
b. Erb palsy
c. Ebstein anomaly
d. Foetal lithium syndrome
e. Neural tube defect

Answer:
The foetus has a 1 in 1000 chance of developing Ebstein anomaly if the mother continues to take lithium. This congenital condition is characterised by apical displacement of tricuspid valve leaflets, leading to part of the right ventricle becoming part of the right atrium. It is associated with atrial septal defect. Neural tube defects are associated with antenatal valproate and carbamazepine use.

3. You are a resident in obstetrics. A 25-year-old mother coming back for postnatal follow-up complains of low mood for 2 months after delivery. Which of the following questionnaires is the most suitable scale to screen for post-natal depression in Singapore?

a. Beck Depression Inventory
b. Edinburgh Postnatal Depression Scale
c. Glasgow Postnatal Depression Scale
d. Hospital Depression and Anxity Scale
e. London Postnatal Depression Scale

Answer:
Options A and D are validated questionnaires but not most suitable in postnatal depression.

MEQ

You are a medical resident receiving geriatric training. An 80-year-old woman is admitted for treatment of urinary tract infection (UTI). In the past few days, she has become confused and disorientated. She sees ghosts in the ward at night. She has good past health and there is no past psychiatric history. Her son is very concerned and wants to speak to you urgently.

1. What is your provisional diagnosis?

Answer:
Delirium or acute confusional state

2. A clinical fellow in your team disagrees with your diagnosis. He thinks there is nothing wrong with this patient as he spoke to the patient this morning and the patient was alert with normal orientation. What is your explanation?

Answer:
Delirium has a fluctuating course; the patient can be normal in the morning and become confused at night

3. A clinical fellow in your team disagrees with your diagnosis. He thinks there is nothing wrong with this patient as he spoke to the patient this morning and the patient was alert with normal orientation. What is your explanation?

Answer:
Urinary tract infection

4. If the patient has mistaken the curtain for a ghost at night, what is this phenomenon known as?

Answer:
Illusion

5. The clinical fellow suggests to give the patient benzodiazepine to help the patient sleep better at night. What is your recommendation?

Answer:
You should inform the clinical fellow that benzodiazepines cause confusion in frail elderly; the treatment team should consider prescribing an antipsychotic e.g. haloperidol to treat delirium

6. Her son wants to know how he can help to manage his mother’s delirium. What is your recommendation?

Answer:
Frequent reorientation to his mother Frequent visits Bring a hearing or visual aid if his mother has any sensory deficit

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EMIS

1. The onset of this disorder is within 1-2 weeks postpartum

a. Menarchy
b. Menopause
c. Postnatal blues
d. Premenstrual syndrome
e. Postnatal depression
f. Postpartum psychosis
g. Late-onset paraphrenia
h. Briquet syndrome
i. Pseudocyesis

2. Occurs in around 10% of women postpartum

a. Menarchy
b. Menopause
c. Postnatal blues
d. Premenstrual syndrome
e. Postnatal depression
f. Postpartum psychosis
g. Late-onset paraphrenia
h. Briquet syndrome
i. Pseudocyesis

3. Usually affects up to 40% of reproductive aged women

a. Menarchy
b. Menopause
c. Postnatal blues
d. Premenstrual syndrome
e. Postnatal depression
f. Postpartum psychosis
g. Late-onset paraphrenia
h. Briquet syndrome
i. Pseudocyesis

4. Usually peaks 3-4 days postpartum

a. Menarchy
b. Menopause
c. Postnatal blues
d. Premenstrual syndrome
e. Postnatal depression
f. Postpartum psychosis
g. Late-onset paraphrenia
h. Briquet syndrome
i. Pseudocyesis

5. Firm belief that one is pregnant and has developed pregnancy signs in the absence of pregnancy

a. Menarchy
b. Menopause
c. Postnatal blues
d. Premenstrual syndrome
e. Postnatal depression
f. Postpartum psychosis
g. Late-onset paraphrenia
h. Briquet syndrome
i. Pseudocyesis

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Chapter 15
Psychogeriatrics

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15.1 Physiological Aging

Choo et al (1990) predicted that Singapore is undergoing a rapid transition into an ageing society. This is a result of a dramatic fall in birth rate combined with a fall in infant and early childhood mortality as well as an improved life expectancy.

Associate Professor Ng Tze Pin and his colleagues from Department of Psychological Medicine, NUS performed the Singapore Longitudinal Ageing Studies (SLAS) and the following is a summary of research findings:

1. Continued work involvement or volunteerism provides opportunities for social interaction and engagement and may be associated with enhanced mental well-being (Schwingel et al, 2009)

2. Successful aging was determined by female gender, >6 years of education, better housing, religious or spiritual beliefs, physical activities and exercise, and low or no nutritional risk (Ng et al, 2009)

3. APOE-E4 allele (not E2) significantly enhanced the risk of cognitive decline associated with depressive symptoms (Niti et al, 2009)

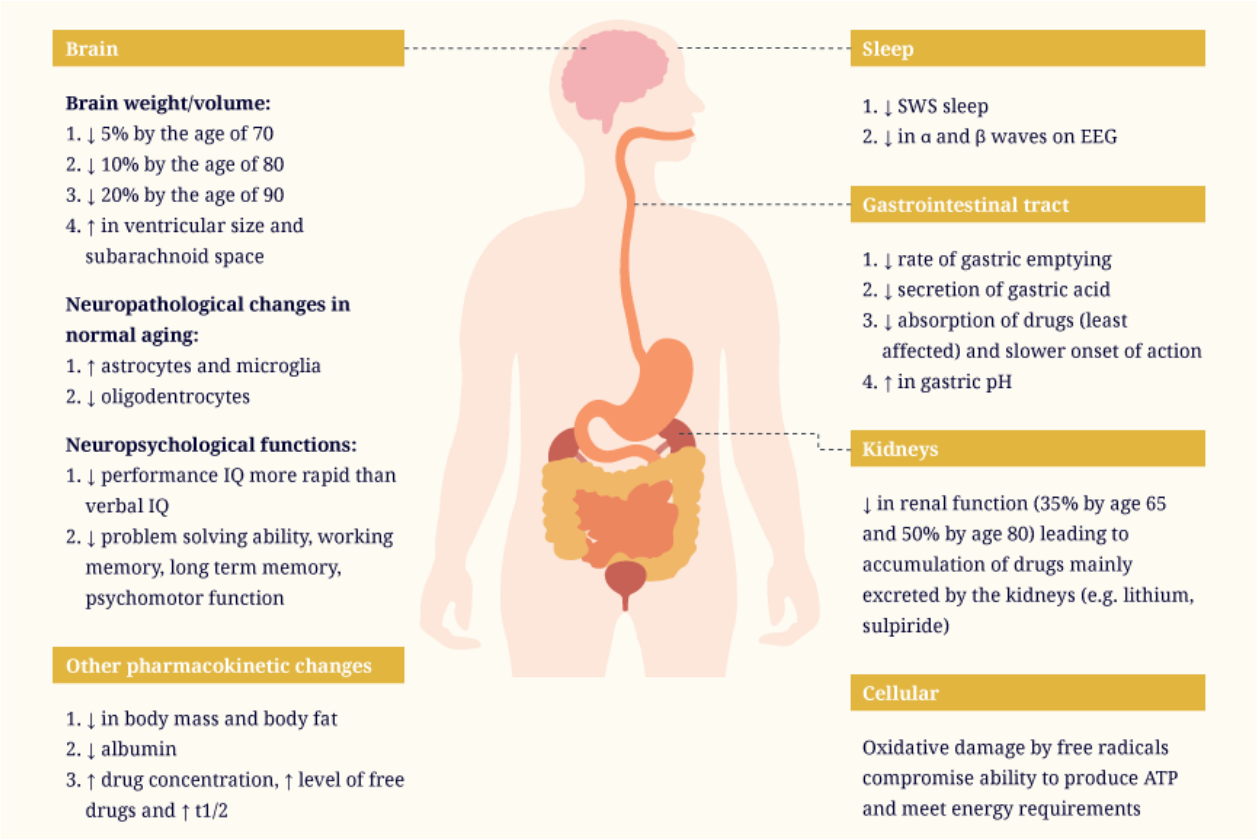
4. Metabolic syndrome was associated with increased risk of cognitive decline in Chinese older adults (Ho et al, 2008)

5. Daily omega-3 PUFA supplement consumption was independently associated with less cognitive decline in elderly Chinese (Gao et al, 2011)

6. Tea consumption was associated with better cognitive performance in community-living Chinese older adults (Feng et al 2010)

7. Statin use was not associated with depressive symptom scores in Singapore elderly (Feng et al 2010)

Figure 15.1 *Biological Changes in Normal Aging*


Brain
Brain weight/volume:
1. ↓ 5% by the age of 70
2. ↓ 10% by the age of 80
3. ↓ 20% by the age of 90
4. ↑ in ventricular size and subarachnoid space
Neuropathological changes in normal aging:
1. ↑ astrocytes and microglia
2. ↓ oligodentrocytes
Neuropsychological functions:
1. ↓ performance IQ more rapid than verbal IQ
2. ↓ problem solving ability, working memory, long term memory, psychomotor function
Other pharmacokinetic changes
1. ↓ in body mass and body fat
2. ↓ albumin
3. ↑ drug concentration, ↑ level of free drugs and ↑ t1/2
Sleep
1. ↓ SWS sleep
2. ↓ in α and β waves on EEG
Gastrointestinal tract
1. ↓ rate of gastric emptying
2. ↓ secretion of gastric acid
3. ↓ absorption of drugs (least affected) and slower onset of action
4. ↑ in gastric pH
Kidneys
↓ in renal function (35% by age 65 and 50% by age 80) leading to accumulation of drugs mainly excreted by the kidneys (e.g. lithium, sulpiride)
Cellular
Oxidative damage by free radicals compromise ability to produce ATP and meet energy requirements

15.2 Dementia

Dementia is a condition which involves progressive and cognitive deficits. Dementia usually affects memory first (except frontotemporal lobe dementia), with subsequent progression to dysphasia, agnosia, apraxia, diminished ability with executive function, and eventual personality disintegration.

It is crucial to differentiate between dementia and delirium.

15.2.1 DSM-5 Diagnostic Criteria

Major Neurocognitive Disorder

There must be significant cognitive decline from a previous level of performance in one or more of the following cognitive domains - attention, executive function, learning and memory, language, perceptual motor and social cognition. These deficits affect independence in performing everyday activities.

Mild Neurocognitive Disorder

There must be modest cognitive decline from a previous level of performance in one or more of the following cognitive domains - attention, executive function, learning and memory, language, perceptual motor and social cognition. These deficits do not affect independence in performing everyday activities.

Delirium

There must be:

1. Changes in attention and awareness
2. These changes or disturbances develop over a short duration of time (usually characterized as within hours to few days) and represent a change from baseline attention and awareness
3. These disturbances tend to fluctuate during the course of a day
4. Additional changes with regards to cognition (memory deficits, disorientated, language, visuospatial ability or perception)
5. There is evidence from clinical history, physical examination and biochemical investigations that the disturbances are due to physiological consequences of a medical condition, substance intoxication or withdrawal or due to multiple aetiologies

Several aetiologies are specified, including:

1. Substance intoxication delirium
2. Substance withdrawal delirium
3. Medication induced delirium
4. Delirium due to another medical condition
5. Delirium due to multiple aetiologies

Acute delirium usually lasts for a few hours or days, whilst persistent delirium lasts for weeks or months.

Other subtypes include:

1. **Hyperactive**: individuals have a hyperactive level of psychomotor activity that may be accompanied by mood lability, agitation, and refusal to cooperate with medical care
2. **Hypoactive**: individuals have marked sluggishness and lethargy that approaches stupor
3. **Mixed level of activity**: individuals have normal level of psychomotor activity even though attention and awareness are disturbed; this also includes those with rapidly fluctuating activity level

Table 15.1 *Comparing Dementia and Delirium*

	Dementia	Delirium
Course of illness	• Insidious in onset, static or progressive in nature, typically occurs over months to years • Less fluctuation in symptoms	Sudden in onset, occurs over hours to days, associated with fluctuation with lucid spells and sun-downing (i.e. symptoms getting worse at night)
Cognitive symptoms:		
Speech	Dysarthria	Mute/normal
Language	Anomia, aphasia	Incoherent, illogical
Attention	Normal/slow response	Reduced ability to focus/obvious shift in attention
Orientation	Normal except in advanced dementia	Disoriented to time, place and person
Memory	Difficulty in recall, encoding, consolidation	Difficulty in encoding associated with recent memory loss after onset of delirium
Other psychiatric features:		
Affect/mood	Depressed/abulic	Usually dysphoric, typically labile, rarely manic
Psychosis	• Hallucination uncommon (e.g. Alzheimer disease) • Lewy body dementia associated with visual hallucinations • Delusion of theft is common (e.g. accusing caregiver of stealing items)	• Visual hallucinations (40-70%) involving distortions and illusions • Delusions (40-70%) usually transient, fragmentary, persecutory

Table 15.2 *Comparing Cortical and Subcortical Dementia*

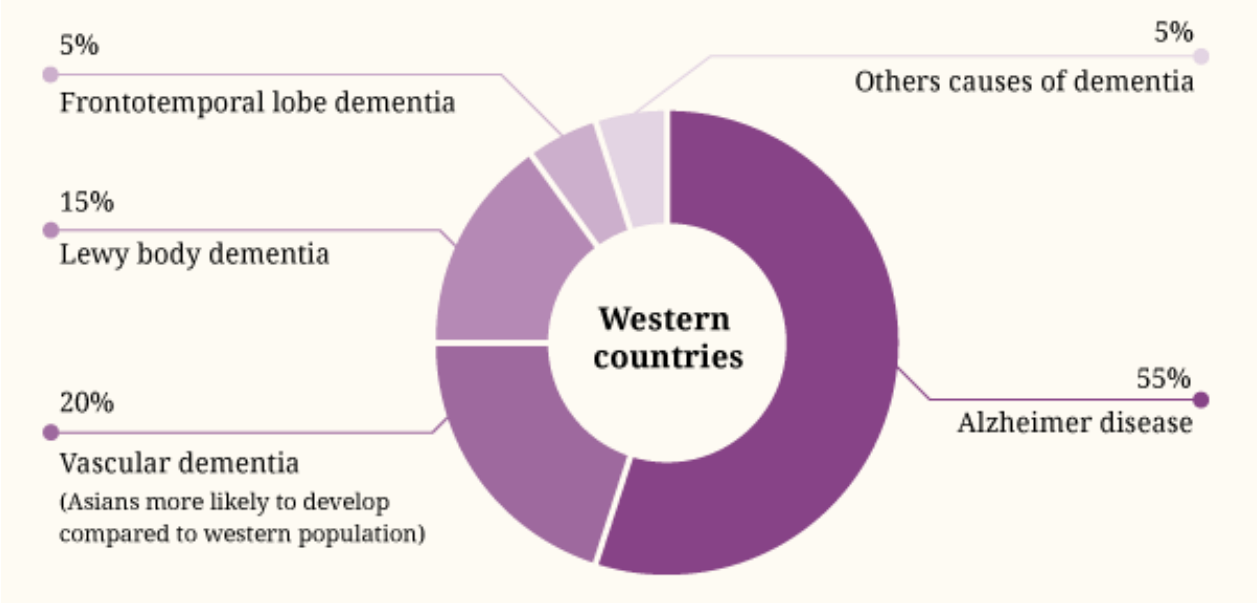
	Subcortical Dementia	Cortical Dementia
Definition	Affects neuroanatomical structures (e.g. nuclei) beneath the cerebral cortex	Affects cerebral cortex
Examples	1. Parkinson disease 2. Huntington disease 3. Progressive supranuclear palsy 4. AIDS dementia complex 5. Multiple sclerosis 6. Wilson's disease 7. Binswanger disease 8. Normal pressure hydrocephalus	1. Alzheimer disease 2. Frontotemporal lobe dementia (FTD)/Pick disease

	Subcortical Dementia	Cortical Dementia
	9. Vascular dementia and Lewy body dementia (LBD) (can be a mixture of cortical and subcortical dementia)	
Course of illness		
Onset	Insidious	Insidious
Duration	Months to years	Months to years
Course	Static or progressive	Progressive
Neuropsychological symptoms:		
Speech	Dysarthria/mute	Progressive mutism in FTD
Language	Normal/anomia	Aphasia (nominal)
Attention	Normal/slow response	Normal/mild impairment
Memory	Prominent difficulty in recall	Difficulty in encoding and consolidation
Cognition	Slow with impairment in spatial orientation, visual discrimination, and angle perception	Acalculia, agnosia (autoprosopagnosia, aperceptual and colour), and apraxia
Other psychiatric features:		
Affect	Depressed/abulic	• Apathy and depression common in AD • Disinhibition common in FTD
Psychosis	May be present	• May be present • In AD 30% of patients have delusions and 15% of patients have hallucinations

15.2.2 Epidemiology

Western Countries

Figure 15.2 *Dementia Subtypes*



1. As a result of the aging population, the prevalence of dementia will increase by 3 times in the next 50 years worldwide
2. Dementia is rare before the age of 60 years
    - Risk doubles every 5 years after the age of 65 until the age of 85
    - By the age of 75, 12% of elderly suffer from moderate-to-severe dementia
    - By the age of 80 and 90, 20% and 40% of elderly suffer from moderate-to-severe dementia respectively
3. Common causes of late onset dementia include Alzheimerâ€™s disease (AD), vascular dementia (VaD) and Lewy body dementia (LBD)
4. Common causes of early onset dementia include AD, VaD and frontotemporal dementia (FTD)
5. VaD is a common cause of early and late onset of dementia; VaD is more common in Japan and China

Singapore

1. Sahadevan et al (2008) studied 14800 old people in Singapore and found that the overall age- and race- standardized dementia prevalence was 1.26%; hence dementia prevalence in Singapore is lower than Western countries
2. Prevalence (in 5-year age bands) was 0.08% (50-54 years), 0.08% (55-59 years), 0.44% (60-64 years), 1.16% (65-69 years), 1.84% (70-74 years), 3.26% (75-79 years), 8.35% (80-84 years), and 16.42% (>85 years)

3. Interesting data on ethnic differences were found: Sahadevan et al (2008) concluded that Malays had twice the risk for AD as compared to Chinese, while Indians had more than twice the risk for AD and VaD than Chinese
4. Ampil et al (2005) studied a total of 357 patients at National Neuroscience Institute (NNI): 190 (53.2%) suffered from VaD and 167 (46.8%) suffered from AD
5. VaD was more common among Chinese and Malays and AD was more common in Indians and Eurasians
6. Factors that may contribute to the observed ethnic variability in dementia include differential frequency of the ApoE-e4 allele, frequency of vascular risk factors, lifestyle choices, and cultural attitudes toward health care utilisation

Caregiver Stress

There were several studies from Singapore on caregiver stress related to the care of dementia patients.

1. Tan et al (2005) reported that neuropsychiatric symptoms were common among dementia patients and were positively correlated with caregiver distress; family caregivers were significantly more distressed than professional caregivers over the delusion, agitation, depression and aberrant motor domains
2. Tew et al (2010) reported that most Singaporean caregivers (85.7%) preferred care of dementia patients at home and only 14.3% chose institutionalisation; four factors were associated with choice of nursing home: caregiver working, no domestic maid, lower caregiver gain and behavioural problems associated with dementia

5.2.3 OSCE

Video 15.1 *Pseudo-dementia*

A 70-year-old woman is brought in by her son because she has become more forgetful.

Task: take a history to establish a diagnosis of dementia.

In clinical practice, dementia patients are often brought by concerned family members rather than complaining of memory loss themselves. Dementia patients may not have insight or may be in denial of memory loss.

1. **Onset of memory loss**: gradual or sudden
2. **Extent of memory impairment**: recent memory (more likely to be impaired) or long term memory (e.g. childhood history may not be affected)

3. **Reactions to memory loss**: confabulation (covering the memory loss by making up an answer), denial or catastrophic reaction (anger when being challenged of memory problems)
4. **Extent of cognitive impairment**: judgement, decision making, problem solving
5. **Explore aetiology**: e.g. family history of AD, history of stroke, history of Parkinson disease (e.g. resting tremor, shuffling gait, masked face) and history of multiple head injury
6. **Possible causes of reversible dementia**: e.g. normal pressure hydrocephalus (gait abnormalities, urinary incontinence), dietary habits (vitamin B12 deficiency), thyroid disorder
7. **Mood status**: history of depression and possibility of pseudodementia as a result of depression (patient tends to give don't know answer); assess sleep pattern and appetite
8. **Common psychotic features**: e.g. delusion of theft (accusing caregiver of stealing an item because the patient cannot find it), auditory or visual hallucination
9. **Behaviour problems**: e.g. violent (e.g. attacking caregiver), disinhibition, wandering behaviour
10. **Risk**: e.g. risk of having a fire or flooding at home as patient may forget to switch off stove or water tap, risk of fall, risk of financial exploitation, risk of self-harm or suicide, risk of violence
11. **Activities of daily living (ADL)**: basic ADL which include bathing, feeding and toileting by oneself; instrumental ADL which include withdrawing money from the bank, shopping and using public transport
12. **Coping by patient**: e.g. memory aids, reminders
13. **Coping by caregiver**: strain on caregiver
14. **Past medical history** and **chronic medical treatment**
15. **Social history**: education level and past occupation

15.2.4 Cognitive Assessment

Mini Mental State Examination (MMSE) and Frontal Lobe Examination

The cut-off for MMSE is 24 out of 30 in a Singaporean who has 'O' level education. The score range for mild dementia is between 20-24. The score range for moderate dementia is between 10-19 and the score range for severe dementia is between 0-9. MMSE score is affected by education level and there is a lack of frontal lobe assessment. There is no score for frontal lobe assessment and it is based on an overall impression and judgement by the assessor. Readers are reminded that the possibility of performing MMSE and frontal lobe assessment is low in the undergraduate OSCE exam in Singapore. If a candidate intends to perform the complete MMSE or frontal lobe assessment in an undergraduate OSCE exam in Singapore, please read the instructions carefully and ensure you do not misinterpret the task.

Montreal Cognitive Assessment (MoCA)

The Montreal Cognitive Assessment (http://www.mocatest.org/) is a validated questionnaire to screen for dementia in Singapore and it also assesses frontal lobe function. MoCA has both Chinese and English versions. If the score is less than 26, the subject has cognitive impairment.

For general practitioners, family doctors and other specialists, clock face drawing test is an easy method to screen for dementia without further training.

Figure 15.3 *Clock Face Drawing Test in Cognitive Impairment*

Clock face drawing (instruction: 10 minutes past 11 o'clock), cognitive function and possible neuroanatomical lesion

Normal

Even spacing between numbers (intact parietal lobe function)

Hour arm and minute arm are correctly placed (intact prefrontal cortex function)

Subtle abnormalities in cognitive function

Even spacing between numbers (intact parietal lobe function)

It is not very clear whether the patient knows which is an hour arm and which a minute arm is (possible impairment in prefrontal cortex)

Abnormal cognitive function

Even spacing between numbers (intact non- dominant parietal lobe function)

Wrong place for hour and minute arms (impaired dominant parietal cortex and prefrontal cortex functions)

Grossly abnormal cognitive function

Uneven space between numbers (impaired non-dominant parietal lobe function)

No hour or minute arm (Impaired dominant parietal cortex and prefrontal cortex functions)

Assessing Activities of Daily Living (ADLs)

- **Basic**: dressing, eating, ambulating, transferring/toileting, hygiene
- **Advanced**: shopping, housekeeping, accounting, food/medication preparation, telephone/transportation

15.2.5 Differential Diagnoses

Differential diagnoses for dementia include:

1. Other irreversible causes of dementia (e.g. VaD, LBD, FTD)
2. Reversible causes of dementia (e.g. normal pressure hydrocephalus, vitamin B12 deficiency, neurosyphilis, hypothyroidism)
3. Mild cognitive impairment (mild memory impairment without functional or occupational decline)
4. Delirium
5. Depression and pseudodementia (e.g. giving ‘don’t know’ answer, poor concentration in depression results in poor registration of information)
6. Amnestic disorder (e.g. Korsakoff psychosis as a result of chronic alcohol misuse, heavy metal poisoning)
7. Underlying mental retardation or intellectual disability
8. Late onset psychosis (resembles behavioural problems associated with dementia)
9. Worried-well syndrome (an anxious person believes that he or she has dementia)

15.2.6 Investigations

1. Full blood count
2. Liver function test
3. Renal function test
4. Thyroid function test
5. Calcium panel

6. Syphilis screen/Venereal Disease Research Laboratory (VDRL)
7. Vitamin B12 and folate
8. Electroencephalogram (EEG)
9. Chest X-ray
10. CT/MR brain scan (important for age of onset < 60 years, focal neurological sign and rapid progression of dementia)

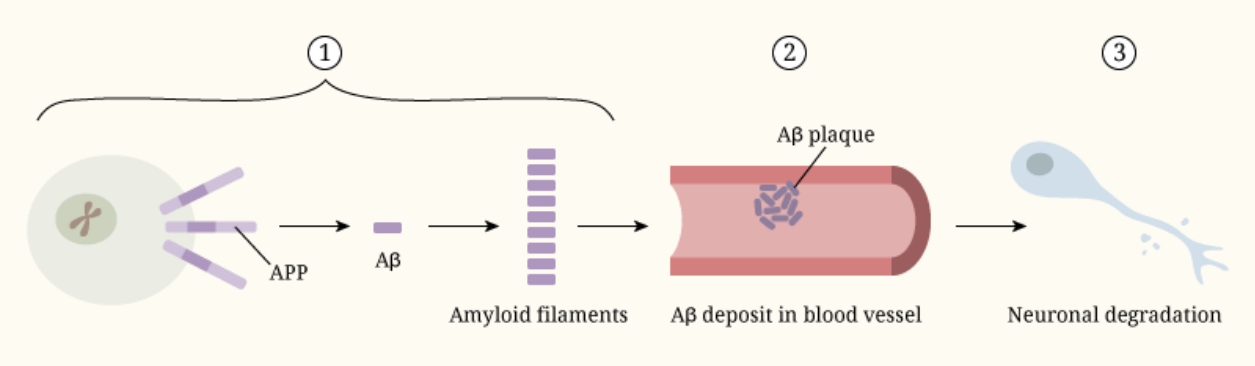
15.2.7 Alzheimer Disease (AD)

Table 15.3 *Risk and Protective Factors for Alzheimer Disease*

Risk Factors associated with AD	Protective Factors against AD
• Old age • Down syndrome • APO e4/e4 alleles • Family history: Down syndrome, vascular risk factors • Head injury (increases risk of forming neurofibrillary tangles) • Aluminium exposure • Female gender	• High education level • APO e2 alleles (people of oriental origin have lower prevalence of APO e4 alleles) • Consumption of fish • Bilingualism • Late retirement

Neuropathology

Figure 15.4 *15.4 β-amyloid (Aβ) Cascade Hypothesis*



1	2	3
Aβ deposition is caused by mutations in: • Amyloid Precursor Protein (APP) gene on Ch 21 (25% of early onset AD)	**Aβ deposition** in extracellular plaques and blood vessels leading to amyloid angiopathy; these senile plaques are found in	**Neuronal degeneration** in the layer 2 of the entorhinal cortex

1	2	3
• Presenilin 1 (PS 1) gene on Chromosome 14 (Presenilin is implicated in in β-amyloid). Chromosome 14 accounts for 75% of early onset AD • Presenilin 2 (PS2) gene on Chromosome 1 **Aβ deposition is predisposed by:** Apolipoprotein E (Apo E e4) allele on chromosome 19 **NFTs are intracellular but amyloid deposits are extracellular** NFT is composed of paired helical filaments with ubiquinated or phosphorylated tau protein; Tau protein links neurofilaments and microtubles. In elderly, NFTs are confined to cells in hippocampus and entorhinal cortex but also found in amygdala, neocortex, locus coeruleus and raphe nuclei	the neocortex (layer 3 and 4), amygdala, hippocampus and entorhinal cortex	(and other cortical areas)

Neurochemical Changes

1. ↓ in acetylcholine in the nucleus basalis of Meynett
2. ↓ in dopamine beta-hydroxylase
3. ↓ in dopamine
4. ↓ in noradrenaline and 5HT in the cortex

DSM-5 Diagnostic Criteria

A major or mild neurocognitive disorder due to Alzheimer disease is diagnosed when:

1. The DSM-5 criteria are met for either major or mild neurocognitive disorder
2. There is insidious onset and gradual progression of the impairments in one or more cognitive domains (at least two domains must be impaired for major neurocognitive disorder)
3. Criteria are met for either probable or possible Alzheimer's disease as follows:
    a. Evidence of a causative Alzheimer’s disease genetic mutation from family history or genetic testing
    b. Three of the following must all be present:
        - Clear evidence of memory decline
        - Steady progression and gradual decline
        - No evidence of mixed aetiology

Other Clinical Features

- **Psychotic symptoms**: paranoid delusions (15%), auditory or visual hallucinations (10-15%; visual hallucination more common than auditory hallucination)
- **Behavioural disturbances**: aggression, wandering, explosive temper, sexual disinhibition, searching behaviour
- **Personality changes**: exaggeration of premorbid personality
- **Orientation**: if disorientation occurs in advanced dementia, it is more common for disorientation in time than place
- **Neurological features**: extrapyramidal features (60%), epilepsy (75%), reduction of REM sleep, frequent nocturnal waking periods and shortened sleep periods

Management (NICE Guidelines, UK)

- **Mild AD**
  - Offer patients the chance to participate in a structured group cognitive stimulation programme irrespective of the status of prescribing acetylcholinesterase inhibitors
- **Moderate AD**
  - Consider acetylcholinesterase inhibitors (AChEIs): donepezil, galantamine, rivastigmine
  - The least expensive drug should be chosen taking into account daily dose and price per dose
  - Consider an alternative acetylcholinesterase inhibitor if adverse event or drug interaction occurs
  - MMSE, functional and behavioural assessment should be performed every 6 months
  - Treatment should be continued if either the MMSE score remains at or above 10 points or global, functional and behavioural assessment indicate beneficial effects
- **Severe AD**
  - Memantine is used in moderately severe to severe AD in well-designed clinical setting

Acetylcholinesterase Inhibitors

Acetylcholinesterase inhibitors (AChEIs) aim to increase the levels of acetylcholine (Ach) and improves cognition for patients with AD.

Table 15.4 *Acetylcholinesterase Inhibitors*

	Donepezil	Rivastigmine	Galantamine
Indications	• AD • VaD	• AD • LBD (improve hallucinations and delusions)	AD

	Donepezil	Rivastigmine	Galantamine
CNS-specificity	Selective	Selective	Selective
Reversibility	Reversible	Pseudo-irreversible	Reversible
Enzymes inhibited	AChE	AChE and BChE	AChE
Plasma half-life	70 hours	10 hours	6 hours
Frequency of administration	Once/day	Twice/day	Twice/day
Daily dose	5-10mg/day	3-6mg/day	8-12mg/day
Elimination	Hepatic	Renal	Hepatic and renal
Price (2012)	$5.99/5mg tab	$2.97/3mg tab $5.20/9.5mg 24h patch	$4.70/8mg tab
Route of Administration	Oral only	Oral and transdermal patch	Oral only

AChE = acetylcholinesterase; BChE = butyrlcholinesterase

In general, AChEIs are safe and well-tolerated. Along with useful effects, AChEIs may cause unwanted side- effects, but not every patient experiences them. Some of these side-effects may improve as the human body adjusts to the new medication. The common side-effects affect less than 1 in 10 people who take these drugs, and include:

- Diarrhoea (excessive cholinergic effects)
- Difficulty in sleeping (excessive cholinergic effects)
- Dizziness
- Feeling agitated
- Headache
- Loss of appetite
- Muscle cramps (excessive cholinergic effects)
- Tiredness
- Bronchospasm

Severe but uncommon side effects (< 1 in 100) include:

- Gastrointestinal tract bleeding
- Bradycardia

Memantine is not an acetylcholinesterase inhibitor and instead works on the glutaminergic and NMDA (neuroexcitatory) receptors as an antagonist to improve cognitive function. Common side effects include:

- Agitation
- Confusion
- Drowsiness
- Giddiness

- Nausea

Uncommon side effects of memantine include:

- Vomiting
- Increased libido
- Hallucinations
- Hypertonia

MOH Clinical Practice Guidelines 1/2013 for Dementia

Grade A Evidence:

- Acetylcholinesterase inhibitors (donepezil, galantamine or rivastigmine) should be considered for the management of patients with mild to moderate degree of Alzheimer's dementia
- These inhibitors may be considered for the management of moderate to severe Alzheimer's disease
- When tolerated, the medications should be titrated to recommended doses as this has been shown to confer greater benefits compared to lower doses
- NMDA (memantine) may be considered for the management of moderately severe to severe Alzheimer's disease, either alone or in combination with AChEIs
- NMDA may be considered for the treatment of mild to moderate Alzheimer's disease, if AChEIs therapy is contra-indicated, not tolerated or if there is disease progression despite an adequate trial of AChEIs.
- AChEIs could be considered for the management of mild to moderate vascular dementia
- NMDA (memantine) have been shown to be of clinical benefit and may be considered for use in the management of mild to moderate vascular dementia
- Anti-inflammatory agents are not recommended for the prevention of cognitive decline in AD
- Oestrogen is not recommended for the prevention of decline in women with AD
- Selegiline is not recommended for the treatment of core or associated symptoms in AD
- Omega 3 fatty acid is not recommended for the prevention or routine treatment of dementia
- Statin therapy is not recommended for the prevention or routine treatment of Alzheimer's disease
- Folic acid and vitamin B supplementation are not recommended for the prevention and treatment of dementia in the absence of vitamin B deficiency
- Rosiglitazone is not recommended as monotherapy or as adjunctive therapy to cholinesterase inhibitors in mild to moderate AD
- Multi-component and individualised caregiver interventions should be considered for holistic dementia care
- Multisensory stimulation is not recommended for the care of elderly patients with dementia

- Antipsychotic medications may be considered in the treatment of behavioural and psychological symptoms of dementia when clinically appropriate and non-pharmacological management has not been useful
- Routine use of mood stabilizers, such as carbamazepine and sodium valproate is not recommended for the treatment of behavioural symptoms associated with dementia

15.2.8 Vascular Dementia (VaD)

Aetiology

- **Hypertension**: most significant risk factor for VaD (contributing to 50% of VaD)
- **Metabolic syndrome**: also plays a key role
- **Polycythaemia, low levels of high density lipoprotein, homocystinuria, sickle cell anaemia**

Clinical Features

VaD has an unpredictable course with more rapid and stepwise deterioration. VaD demonstrates more impairment in attention and executive function as compared to AD.

Table 15.5 *NINDS-AIREN Diagnostic Criteria of Vascular Dementia*

A relationship between dementia and cerebrovascular accidents (CVA) manifested or inferred by the presence of one or more of the following:	Clinical features consistent with the diagnosis of probable VaD:
• Amnesia and cognitive impairment in at least 1 domain with resultant disability • Focal sign and image findings • Onset of dementia within 3 months following a recognised stroke • Abrupt deterioration in cognitive function (fluctuating and stepwise)	• Early presence of gait disturbance • History of unsteadiness and frequent unprovoked falls • Early urinary symptoms not explained by urologic disease • Pseudobulbar palsy • Mood changes/abulia

DSM-5 Diagnostic Criteria

A diagnosis of major or mild vascular neurocognitive disorder is made when:

1. The DSM-5 criteria are met for either major or mild neurocognitive disorder.
2. The clinical features must be consistent with an underlying vascular aetiology, as suggested by the following:
    - Onset of cognitive deficits that are related temporally to one or more cerebrovascular events
    - Evidence of decline in complex attention and frontal executive function

Investigations

1. **CT and MRI**: may show infarcts, lacunes and leukoaraiosis
2. **SPECT and PET scans**: may show patchy hypoperfusion

Management

1. The NICE guidelines (UK) currently do not recommend the use of AChEIs or memantine for cognitive decline in VaD except in properly constructed clinical studies; donepezil may be beneficial but is not licensed in VaD
2. Treatment of underlying risk factors such as hypertension and diabetes is important

Prognosis

The prognosis of VaD is worse than that of AD: the mean survival of AD is 6 years while the mean survival of VaD is only 3 years.

15.2.9 Frontotemporal Dementia (FTD)

Comparing AD and FTD:

- Patients with FTD have younger age of onset (age of onset: 45-65 years; F:M = 2:1), more severe apathy, disinhibition, reduction in speech output, loss of insight and coarsening of social behaviour as compared to patients with AD; primitive reflexes such as grasp, pour, palm mental reflexes reappear
- Patients with AD have more impairment in calculation, constructions and lower Mini-Mental State Examination (MMSE) scores and higher prevalence of depression (20%) compared to FTD
- Both AD and FTD have insidious onset

Pathology: frontotemporal atrophy, swollen achromatous neurons (balloon cells), presence of Pick bodies

Clinical Features of Frontotemporal Dementia

- **Frontotemporal lobe features**
    - Loss of executive functions: loss of interest, preservation, disinhibition (jocularity and hypersexuality), inflexibility and impulsiveness, lack of personal and social awareness
    - Primitive reflex and stereotypies (compulsion without obsessions), strange eating habits
    - Progressive reduction in speech, poor verbal fluency, echolalia
    - Preserved visuospatial ability
- **Affective features**
    - Depression

    - Anxiety
    - Hypochondriasis
    - Emotionally unconcerned
- **Supporting features**
    - Age of onset < 65 years
    - Family history of FTD
    - Bulbar palsy
    - Akinesia, rigidity, tremor
    - Early incontinence

DSM-5 Diagnostic Criteria

A diagnosis of major or mild frontotemporal neurocognitive disorder is made when:

1. The DSM-5 criteria are met for either major or mild neurocognitive disorder
2. There has been gradual onset and progression of impairments
3. There must be the presence of:

- 3 or more behavioural symptoms such as behavioural disinhibition, apathy, loss of sympathy or empathy, perseverative behaviour and hyperorality
- Language difficulties such as marked decline in language ability, especially so for speech production, word finding, object naming, grammar or word comprehension

Investigations

1. **Psychometry**: shows characteristic impairments in executive function, verbal fluency and agnosia
2. **Structural imaging**: may not show characteristic lesion in early stage; functional imaging shows anterior hypoperfusion

Management

1. No active pharmacological intervention is indicated for cognitive impairment
2. SSRI is indicated for non-cognitive features
3. Psychosocial interventions may be useful

15.2.10 Lewy Body Dementia (LBD)

Video 15.2 *Lewy body dementia*

Lewy body dementia is characterised by a triad of cognitive impairment, Parkinsonian features, and visual hallucinations.

Epidemiology

- Third commonest cause of late-onset dementia
- Commonly affects men more than women

Pathology

- Neuroanatomical areas affected include the hippocampus, temporal lobes and neocortex
- Cholinergic deficit is much more pronounced in LBD as compared to AD

Clinical Features

- **Cognitive symptoms**
  - Enduring and progressive cognitive impairment with emphasis on impairment in consciousness, alertness, attention
  - Cognition fluctuates, short term memory not affected in early stage
  - Less episodic amnesia, more executive dysfunction, more apraxia compared to AD
- **Parkinson features**
  - Slowness
  - Muscle stiffness
  - Tremor
  - Shuffling gait (mild Parkinsonism: 70%; no Parkinsonism: 25%)
  - Paucity of facial expression
  - Hypophonia
- **Common non-cognitive features**
  - Apathy
  - Depression
  - Hallucinations (complex visual: 80%; auditory: 25%)
  - Delusions (paranoid: 65%)
  - Nightmares are common
- **Other features**
  - Neuroleptic sensitivity (60%)
  - Falls
  - Syncope
  - Spontaneous loss of consciousness

DSM-5 Diagnostic Criteria

A diagnosis of major or mild neurocognitive disorder with Lewy bodies is made when:

1. The DSM-5 criteria are met for either major or mild neurocognitive disorder
2. There has been gradual onset and progression of impairments
3. Core diagnostic features include:
   - Fluctuating levels of cognition with marked variations in attention and alertness
   - Visual hallucinations (recurrent) that are characterized as being well formed and detailed

    - Features of parkinsonism, with onset subsequent to the development of cognitive decline
4. Additional supportive diagnostic criteria:
    - Presence of rapid eye movement sleep behaviour disorder
    - Severe neuroleptic sensitivity

Investigations

- **Imaging**: little atrophy in early stages with sparing of medial temporal lobe
- **EEG abnormalities**: seen in 90% of patients with LBD

Management

1. Do not use antipsychotic drugs for mild-to-moderate non cognitive symptoms in LBD because of the risk of severe adverse reactions (e.g. EPSE); if patients with LBD need antipsychotics, consider quetiapine
2. Consider AChEIs for people with LBD who have non-cognitive symptoms causing significant distress or leading to challenging behaviour; rivastigmine has the best research evidence for improvement of cognitive functions in LBD; may improve cognitive symptoms, delusions and hallucinations

15.2.11 Reversible Causes of Dementia

Normal pressure hydrocephalus

- **Clinical features**: triad of cognitive impairment, gait disturbance and urinary incontinence o Aetiology: subarachnoid haemorrhage, trauma, meningitis
- **CT/MRI brain**: ventricular enlargement without significant cortical atrophy
- **Management**: ventriculoperitoneal shunt

Subdural haematoma

- **Clinical features**: recent memory loss, morning headaches, fits, diplopia, hyperreflexia, extensor plantar responses
- **Treatment**: surgical evacuation

Reversible causes picked up by laboratory tests

- **Vitamin B12 deficiency**: memory impairment (75%); commonly caused by pernicious anaemia associated with diffuse and focal degenerations
- **Folate deficiency**
- **Thiamine (vitamin B1) deficiency**: horizontal nystagmus, lateral rectus palsy, ataxia, memory or cognitive deficits (10%)
- **Neurosyphilis**: Argyll-Robertson pupils (60%), dysarthria (80%), spasticity (50%), tabes dorsalis (20%), depression (30%)

- **Hypothyroidism**
- **Primary hypoparathyroidism**: slow, insidious onset

Hepatic encephalopathy

- **Clinical features**: impaired cognition, a flapping tremor (asterixis), decreased level of consciousness
- **Management**: neomycin, lactulose

Heavy metal poisoning

- e.g. aluminium, thallium (causing hair loss) and mercury

15.3 Other Psychogeriatric Disorders

Late Onset Schizophrenia (Paraphrenia)

- **Epidemiology**:
  - Prevalence: less than 1% (17-24/100,000)
  - More common in elderly women
  - Very late onset schizophrenia occurs after 60 years of age
  - Late onset schizophrenia occurs between 40 to 59 years of age
- **Risk factors**: Sensory impairment (e.g. deafness), social isolation, paranoid or schizoid personality (45%)
- **Clinical features**: onset is insidious
  - Delusions: only symptom in 20% of late onset schizophrenia
    - Commonest type: persecutory (90%)
  - Hallucinations: auditory most common (75%)
  - Visual hallucinations (60%) and early cognitive impairment are recognised features
  - Common behaviour problems include aggression and agitation
- **Compared to adult schizophrenia**: Affective flattening, negative symptoms and presence of all first rank symptoms (<30%) are less common in elderly
- **Imaging**: larger ventricles on CT brain scan
- **Differential diagnoses**: delusional disorder, dementia, delirium
- **Management**:
  - Use of first (e.g. haloperidol) or second generation (e.g. risperidone) antipsychotics is still under debate
  - Maudsley Guidelines [UK]: increased risk of CVA in elderly apply to both first and second generation antipsychotics; first generation antipsychotics are also associated with increased mortality
  - Doctors should discuss with the patient and seek their preference on choice of antipsychotics
- **Prognosis**: psychotic symptoms usually respond to antipsychotics although duration of treatment may need to be indefinite

Late Onset Depressive Disorder

- **Epidemiology**:
  - Prevalence: in the community (3%); attending GPs (30%), elderly in residential care (40%), elderly as medical inpatients (45%)
  - Mild depression more common in females (F:M = 2:1) but severe depression has equal sex ratio
  - Less than 10% of depression emerge in old age
- **Aetiology and risk factors**:
  - Cancer, cardiovascular diseases, central nervous system diseases
  - Living alone and presence of dementia are risk factors
  - 10-20% of widows suffering from grief and require treatment
  - Marriage is protective against depression in old age
- **Salient features**:
  - Psychomotor retardation/agitation (30%), depressive delusions (poverty and nihilistic) are common
  - Paranoia involves derogatory and obscene auditory hallucinations, complaints of nervousness and irritability are also common
  - Late onset depression is associated with deep white matter changes and enlargement of ventricles
- **Vascular depression**:
  - Associated with apathy, psychomotor retardation, impaired executive function and mortality
  - Anterior infarct more common than posterior infarct
  - Family history of depression increases the risk of vascular depression
- **Compared to adult depression**: late onset depression not associated with family history of depression
- **Comorbidity**:
  - Cognitive impairment in depressed patients (70%)
  - Some elderly suffer from pseudodementia with difficulties in concentration and lack of motivation in the background of depression
- **Instruments**: Geriatric Depression Scale (GDS score > 11 in GDS-30 or 5 in GDS-15 indicates depression)
- **Management**:
  - Antidepressants
    - SSRIs are better tolerated than TCAs
    - SSRIs increase the risk of GI or other bleeding, particularly in elderly taking NSAIDs or warfarin
    - Elderly are prone to develop hyponatraemia, have poorer treatment response and take longer to respond (6-8 weeks) in general
  - Psychotherapy: useful, elderly need shorter sessions.
  - ECT is effective in 80% of severe depression especially for those with anxiety and agitation; cardiac pacemaker is not an absolute contraindication
  - 10% of elderly depression is resistant to conventional treatment
- **Prognosis**: organic brain disorder and chronic depression are associated with poor prognosis; long term prognosis is not favourable for 40% of cases

Suicide

- **Epidemiology**:
    - Suicide is common in elderly and often lethal
    - Singapore:
        - 53.8% of elderly verbalized thoughts of wanting to kill themselves
        - Men: three times more likely to report suicidal thoughts
        - Association between depression, severity and suicidal ideations not strongly supported 95% of elderly suicide not feigned or manipulative
        - Parasuicide: rare in elderly with equal sex incidence
        - Deliberate self-harm (DSH) in over-65s only accounts for 5% of all DSH
- **Risk factors**: male gender, elderly with low cholesterol, cancer, CVA, epilepsy, multiple sclerosis, social isolation and first year of bereavement; risk factors for suicide and DSH in elderly are similar
- **Salient features**:
    - Suicide may take place within the first few hours of admission and within weeks after discharge
    - Suicide is less common among those staying in residential care and those with obsessive compulsive personality
- **Management**: all acts of DSH in people over the age of 65 years should be taken as evidence of suicidal intent until proven otherwise; psychiatrists need to rule out depression, cognitive impairment and poor health

Late Onset Bipolar Disorder

- **Epidemiology**:
    - Prevalence of bipolar disorder: less than 0.1% in old people older than 65 years
    - F:M = 2:1
- **Aetiology**:
    - Influence from genetics is less as compared to adults
    - More common for depression to switch to mania in elderly o Organic factors such as cerebral insult are a common cause
- **Salient features**: more irritable and more likely to develop toxic effects if treated with lithium as compared to adult patients; more mixed presentation and paranoid ideation; less euphoria and less hyperactivity
- **Treatment**:
    - First-line: atypical antipsychotic (less weight gain)
    - Second-line: lithium for female patients, valproate for male patients
        - Maintenance level of lithium for elderly: 0.4 - 0.6 mmol/L

Late Onset Anxiety Disorder

- **Epidemiology**:
    - Overall prevalence between 1-10%
    - Phobic disorder is more prevalent in the community samples compared to the hospital samples

    - Prevalence: social phobia (1%), agoraphobia (2-7%), generalised anxiety (4%), simple phobia (4%)
    - Onset: usually in young adulthood
    - Panic disorder is less common compared to adults
- **Aetiology and risk factors**:
    - After physical illness and accident, old people often lose confidence to go out
    - Adverse life events and loneliness are also risk factors for late onset anxiety disorder
- **Salient features**: fear of crowds or public transport is common; open space phobia is well recognised in elderly
- **Management**:
    - Pharmacotherapy:
        - SSRIs are better tolerated than TCAs in elderly
        - SSRIs increase the risk of GI or other bleeding, particularly in elderly taking NSAIDs or warfarin
        - Elderly are prone to develop hyponatraemia
        - Elderly have poorer treatment response and take longer to respond (6-8 weeks)
    - Psychotherapy (e.g. exposure therapy): useful to overcome agoraphobia; elderly need shorter sessions compared to adults

Alcohol Abuse in Elderly

- **Epidemiology**:
    - Commonly used in older people
    - M:F in problem drinkers is 2-6:1 in western countries
    - Men start drinking in adulthood and continue into old age
- **Causes**:
    - Often precipitated by sudden access to excess time and money after retirement
    - Higher social class: risk factor for late onset alcohol abuse
    - Genetic factor: less significant role in late onset alcohol dependence
    - Reduction in body mass and total body water in old age may lead to higher peak blood alcohol levels with the same amount of alcohol consumed in adulthood
- **Comorbidities**: depression, anxiety, cognitive impairment
- **Management**:
    - Non-pharmacological: similar to treatment in adults; motivational enhancement, detoxification and joining Alcoholic anonymous (AA)
    - Pharmacological: naltrexone is safe in elderly but disulfiram should be avoided because it causes cardiac and hepatic adverse effects
- **Prognosis**: late onset alcohol dependence usually resolves without formal treatment

Benzodiazepine Dependence in Elderly

- **Epidemiology**: prevalence is 10%; more common in women
- **Risk factors**: anxiety disorder, depression, personality disorder
- **Prognosis**: 60% of elderly successful in abstinence after detoxification

Other substances commonly misused by elderly in Singapore: cough mixture, laxatives and analgesics.

Key Learning Points

1. Mild neurocognitive disorder should not affect independence in performing everyday activities while and major neurocognitive disorder should affect independence in performing everyday activities.
2. Delirium is characterised by acute onset, fluctuating course, and changes in attention and awareness associated with cognitive deficits.
3. Delirium can either be hyperactive or hypoactive.
4. Cortical dementias include Alzheimer disease and frontotemporal lobe dementia, and present with cortical signs such as acalculia, agnosia and aphasia compared to subcortical dementias.
5. The Montreal Cognitive Assessment (MoCA) assesses both dementia and frontal lobe function, and is preferred over the MMSE which only assesses dementia.
6. Reversible causes of dementia which should always be considered include normal pressure hydrocephalus, vitamin B12/B1 deficiency, thyroid disease, neurosyphilis, hepatic encephalopathy and heavy metal poisoning.
7. The main pathology in Alzheimer disease are neurofibrillary tangles and extracellular plaques.
8. Vascular dementia is characterised by stepwise deterioration associated neurological signs and multiple infarcts.
9. Frontotemporal dementia is characterised by frontal lobe deficits of executive function and behaviour, as well as temporal lobe deficits of language and memory.
10. Lewy body dementia is characterised by a triad of cognitive impairment, Parkinsonian features, and visual hallucinations.

Revision MCQs and MEQs

MCQ

1. An 80-year-old man is brought in by family for poor memory. The history and MMSE assessment suggest that he suffers from dementia. The family wants him to have a CT brain scan but the patient is not very keen. Which of the following is not an indication for a CT brain scan?

a. Focal neurological sign
b. Gait disturbance
c. Slow progression of dementia
d. Recent head injury
e. Use of anticoagulant (e.g. warfarin)

Answer:
Rapid progression of dementia is an indication for CT brain scan. Slow progression suggests that the patient may suffer from Alzheimer's disease and is not a strong indication for CT brain scan.

2. A 75-year-old woman is brought in by her daughter because she has been seeing multiple GPs to obtain medications. She seems to be dependent on various medications and her daughter has no clue of what she is taking. Her daughter wants to find out the pattern of substance misuse in elderly. Which of the following drugs is least likely to be abused by old people in Singapore?

a. Analgesics
b. Benzodiazepines
c. Diuretics
d. Cough mixture
e. Laxatives

Answer:
Diuretics are used by young people with anorexia nervosa to lose weight but are uncommonly abused by elderly in Singapore.

3. A 70-year-old woman presents with mania after left cerebrovascular accident. As compared to an adult bipolar patient, she is more likely to:

a. Require higher dose of lithium
b. Demonstrate irritability
c. Demonstrate reckless behaviour
d. Have high sexual drive
e. Have grandiose delusions

Answer:
Late onset bipolar disorder is associated with less grandiosity, less violent or reckless behaviour and less likely to be associated with concomitant misuse of recreational drugs.

MEQ

You are a GP working in the heartland neighbourhood. A 57-year-old postman complains of poor memory and worries that he suffers from dementia. He mentions that he forgot to bring his wallet when he went for shopping one day. He continues to work without occupational impairment. There is no psychiatric history or family history of mental illness. He has good past health. Mental state examination reveals a middle-aged man who is anxious. He does not show any psychotic features. He consults you to establish a diagnosis of dementia and anti- dementia treatment.

1. Is this 57-year-old man likely to suffer from dementia?

Answer:
No, he is unlikely to suffer from dementia

2. List five clinical features in this vignette which suggest that he is unlikely to suffer from dementia.

Answer:
He is younger than 60 years
There is only one episode
There is no family history of dementia
There is no past history of medical illness such as stroke or related risk factors
He has good occupational function

3. List two differential diagnoses for his subjective memory impairment.

Answer:
Worried-well phenomenon: anxious people worry that they have dementia
Pseudodementia: poor attention/concentration as a result of depression

4. He is still concerned and requests a cognitive assessment. Name two assessments which you would perform to screen for dementia.

Answer:
Mini mental state examination (MMSE)
Montreal Cognitive Assessment (MoCA)
Clock-face drawing test

5. He wants to have laboratory investigations to rule out reversible causes of dementia. List four investigations.

Answer:
Full blood count

Vitamin B12 and folate
Liver function test
Syphilis screen (VDRL)
Thyroid function test (TFT)

EMIS

1. An 80 year old lady presents to the clinic with focal neurological signs, associated with memory impairments. Her family gave a history suggestive of a progressive stepwise deterioration from baseline.

a. Alzheimer dementia
b. Delirium
c. Herpes simplex encephalitis
d. HIV dementia
e. Huntington disease
f. Multi-infarct dementia
g. Organic hallucinosis
h. Organic psychotic disorder
i. Pick disease
j. Post-encephalitic syndrome

2. An 80 year-old male presents to the accident and emergency department with significant impairment in consciousness. He was not orientated, and was noted to be not able to hold his attention, even for short spans of time. There is also marked disturbances in his sleep wake cycle.

a. Alzheimer dementia
b. Delirium
c. Herpes simplex encephalitis
d. HIV dementia
e. Huntington disease
f. Multi-infarct dementia
g. Organic hallucinosis
h. Organic psychotic disorder
i. Pick disease
j. Post-encephalitic syndrome

3. A 70 year old male presented to the old age clinic with a history of progressive, gradual deterioration of cognition, without any focal neurological signs.

a. Alzheimer dementia
b. Delirium
c. Herpes simplex encephalitis
d. HIV dementia
e. Huntington disease

f. Multi-infarct dementia
g. Organic hallucinosis
h. Organic psychotic disorder
i. Pick disease
j. Post-encephalitic syndrome

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Chapter 16
Child & Adolescent Psychiatry

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16.1 Autism

Autism is characterised by repetitive behaviour, communication difficulty and impairment in social interaction.

16.1.1 Onset

Onset is before the first 3 years of life. 70% of cases do not have normal development. 30% of cases have a clear ‘setback’ in the second or third year of life.

16.1.2 Epidemiology

Western Countries

- **Prevalence**: 7-28/10,000; accounts for 25-60% of all autistic disorders
- **Gender ratio**: M:F = 4:1
- **Socioeconomic status**: no clear association

Singapore

- **Gender**: boys > girls
- **Birth complications**: low incidence in autistic children
- **Age of onset**: 60% diagnosed before age of 3 years
- **Caregiver**: high frequency of caregivers of autistic children were foreign maids

16.1.3 Aetiology

Autism has various causes; the aetiology is obscure in most instances.

- **Genetic Causes**
  - **Heritability**: > 90%, higher concordance in monozygotic twins
  - **Recurrence rate in siblings**: 3% for narrowly defined autism, 10-20% for milder variant
  - **Loci**: chromosome 2q and 7q are suspected
- **Environmental Causes**
  - **Perinatal injury**: moderately increased in autistic children
- **Medical Conditions**
  - **Infective**: Rubella, cytomegalovirus
  - **Congenital**: Fragile X syndrome, tuberous sclerosis, phenylketonuria, neurofibromatosis, infantile spasms (West syndrome)

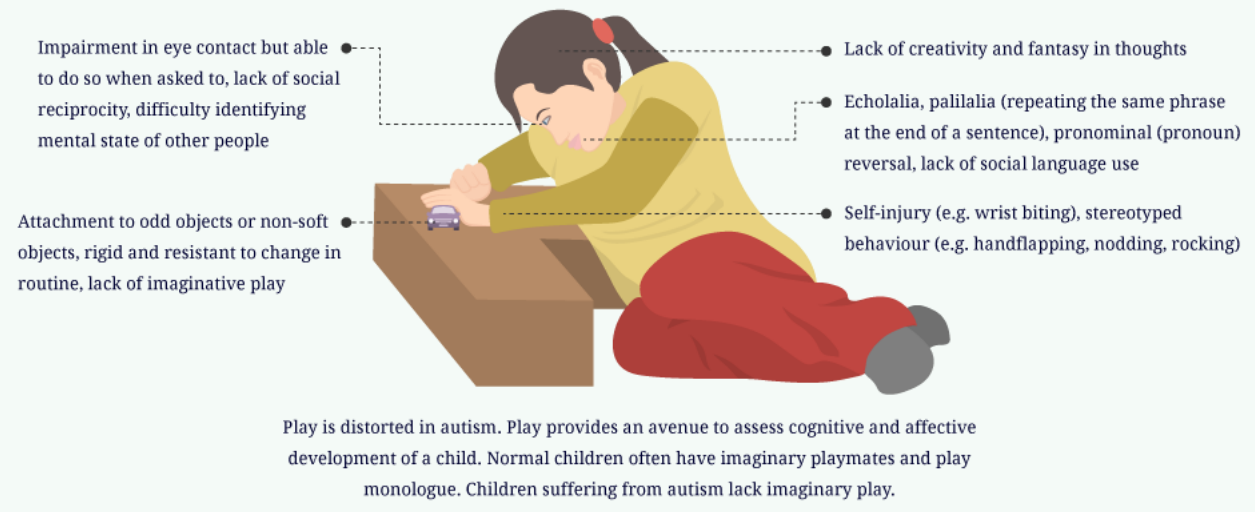
Theory of Mind

One influential theory suggests that the primary deficit in autism lies in the theory of mind. Theory of mind refers to the capacity of a person to attribute independent mental states to oneself and others in order to predict and explain the actions of others.

16.1.4 Clinical Features

Video 16.1 *Clinical Features of Autism*

Figure 16.1 *Clinical Signs of Autism*


Impairment in eye contact but able to do so when asked to, lack of social reciprocity, difficulty identifying mental state of other people
Attachment to odd objects or non-soft objects, rigid and resistant to change in routine, lack of imaginative play
Lack of creativity and fantasy in thoughts
Echolalia, palilalia (repeating the same phrase at the end of a sentence), pronominal (pronoun) reversal, lack of social language use
Self-injury (e.g. wrist biting), stereotyped behaviour (e.g. handflapping, nodding, rocking)

Play is distorted in autism. Play provides an avenue to assess cognitive and affective development of a child. Normal children often have imaginary playmates and play monologue. Children suffering from autism lack imaginary play.

16.1.5 ICD-10 Diagnostic Criteria

The presence of abnormal development is manifested before the age of 3 years including abnormal receptive or expressive language, abnormal selective or reciprocal social interaction, or abnormal functional or symbolic play.

Abnormal reciprocal social interactions include failure in eye gaze and body language, failure in development of peer relationship, lack of socio-emotional reciprocity and lack of spontaneous sharing with other people.

Abnormal communication includes lack of development of spoken language, lack of social imitative play, failure to initiate or sustain conversational interchange, stereotyped and repetitive use of language.

Restricted, stereotyped and repetitive behaviour includes preoccupation with stereotyped interest, compulsive adherence to rituals, motor mannerisms, preoccupation with part-objects or non-functional elements of play materials.

Other non-specific problems include phobias, sleeping and eating disturbances, temper tantrums and self- directed aggression.

Other pervasive development disorders, socio-emotional problems, intellectual disability and schizophrenia-like symptoms must be absent.

16.1.6 DSM-5 Diagnostic Criteria

Autism Spectrum Disorder is now considered a new DSM-5 terminology which now comprises 4 previous DSM-IV-TR conditions (autistic disorder, Asperger disorder, childhood disintegrative disorder and pervasive developmental disorder not otherwise specified).

Autism Spectrum Disorder

An individual diagnosed with autism spectrum disorder would have marked difficulties in terms of communication and engagement with others across multiple social situations. These include:

1. Difficulties with demonstrating appropriate behaviours in social contexts,
2. Difficulties associated with non-verbal communications used for social interactions, and
3. Difficulties associated with failure to initiate or adapt to social interactions.

In addition, individuals must also have characteristic repetitive behavioural patterns, such as

1. Repeated stereotypical movements or
2. Highly ritualized behavioural patterns

These behaviours must have started since early development and must have resulted in marked impairments in terms of functioning. Clinicians should distinguish between intellectual disability and autism spectrum behaviour, and note that there are situations in which intellectual disability and autism might co-occur.

16.1.7 Assessment

MOH guidelines (2010) recommend that children with one or more of the following clinical features be referred promptly for comprehensive developmental evaluation:

1. No babble, pointing or other gestures by 12 months
2. No single words by 18 months
3. No spontaneous (non-echoed) 2-word phrases by 24 months
4. Any loss of language or social skills at any age

Diagnostic evaluation of a child suspected to have autism should be carried out by a multi-disciplinary team or professional who is trained and experienced with the diagnosis of autism. Evaluation includes:

1. An autism-specific developmental history
2. Direct observations
3. Obtaining wider contextual and functional information

Instruments

1. **Autism Diagnostic Observation Schedule (ADOS)** for patients and **Autism Diagnostic Interview (ADI)** for parents
2. **Child Behaviour Checklist (CBCL)**: Autism Spectrum Disorder scale constructed in Singapore based on 9 items from CBCL; high scores in the following categories: withdrawn/depressed, social problems, and thought problems syndromes significantly discriminated autism children from other disorders
3. **IQ test**: performance IQ better than verbal IQ

Investigations

Children with ASD with the following features should have a genetic evaluation:

1. Microcephaly or macrocephaly
2. A positive family history (of a genetic syndrome)
3. Dysmorphic features

Electro-encephalography (EEG) is not routinely recommended in children with ASD but should be considered if any of the following are present:

1. Clinical seizures
2. Symptoms suggestive of sub-clinical seizures e.g. staring spells
3. A history of developmental regression

16.1.8 Management

For the child:

Every pre-school child diagnosed with autism should have an **individualised intervention plan** that sets out the goals, type(s), frequency and intensity of intervention, in order to address particular developmental and educational needs. Such an individualised intervention plan should consist of a variety of quality programmes and activities including attendance of comprehensive early intervention programmes, programmes targeting specific needs and also positive engagement with parents and/or caregivers.

Alternative-augmentative communication systems may be recommended for pre-school children with autism because the expanded (spoken or written) communication may stimulate speech acquisition in non- verbal children and enhance expression in verbal children.

Visual strategies are useful interventions for children with autism because they offer visual support to communication, increase spontaneous imitation and socially communicative behaviour.

Social skills programmes depend on the functioning level of the preschool child with autism and may include:

1. Assessment and teaching of social skills interaction in natural settings
2. Provision of structure, visual cues and predictability
3. Making abstract concepts easier to understand
4. Activities that enable purposeful and appropriate interaction with typically developing peers
5. Goals focusing on fostering self-appreciation and self-esteem

Pharmacological treatments are indicated:

- **Fluvoxamine**: may be considered for repetitive thought and maladaptive behaviour but should be used with caution in children with autism because of limited efficacy and poor tolerance
- **Risperidone**: recommended for management of irritability, hyperactivity and stereotypic behaviour when used as short term treatment for children with autism
- **Methylphenidate**: may be considered for treating hyperactivity in children with autism, although the magnitude of response is often less than that seen in typically developing children with attention deficit hyperactivity disorder
- **Melatonin**: may be considered in the management of disturbed sleep patterns in children with autism

For the parents:

Parents and caregivers should be encouraged to discuss the need for practical emotional support. This enables information to be provided, referrals made and support services made available

Parents and caregivers are recommended to consult appropriate professionals when considering educational placement for their child with autism, e.g. child and educational psychologists who are informed of special educational provisions in Singapore.

16.1.9 Comorbidities

1. Generalised intellectual disability (50% have IQ< 50; 70% have IQ < 70; 100% have IQ < 100)
2. Seizure (25%): peak age of seizure is 11-14-year-old
3. OCD (10%)

4. Hyperactivity
5. Emotional problems
6. Temper tantrums

16.1.10 Prognosis

Western Countries

- **Most important predictors**
  - **Childhood IQ**: non-verbal IQ < 60 associated with severe social impairment and lack of independent living
  - **Presence of speech by 5 years**: 50% do not develop useful speech
- Only 10% able to work independently

Singapore

- **MOH Guidelines**: for autistic children diagnosed before three years of age, parents should be advised that it is difficult to reliably predict prognosis, because individual outcomes are extremely variable and depend on many factors

16.2 Asperger Syndrome (high functioning ASD)

Epidemiology

- **Prevalence**: 3-4 per 1000 children
- **Gender ratio**: M:F = 9:1

ICD-10 Diagnostic Criteria

- Relatively normal early development; the child is noted to have lack of warmth and interest in social relationships around the third year of life
- Language development is not delayed and single word should have developed by age of 2 and communicate phrases by age of 3; motor milestones are delayed

Clinical Features

- Preoccupation with restricted, stereotyped and repetitive interests and associated activities; extensive information is often acquired in a mechanical fashion; classic interests include scientific fields (e.g. trains, weather, dinosaurs), but interests in other fields such as arts or music are seen as well
- Good with logic, rules and routine; tend to see the details (and thus argue over minute details with others) without seeing the ‘big picture’
- Problems distinguishing people with different social roles, as well as recognizing social boundaries e.g. talking to the principal and classmates in the same manner; having

trouble with normal social conventions, trouble with making and keeping friendships, tending to be introverted and having less need for friendships

Comorbidities

- Anxiety
- Depression
- OCD
- Schizophrenia (uncommon but possibly may develop)

Investigations

- **IQ test**: verbal IQ better than performance IQ

Management

- Psychoeducation should be offered to parents to enhance acceptance and maintain routines at home and school
- As the child gets older, he can be helped by supportive counselling
- The patient is encouraged to obtain employment in a routine job (e.g. librarian); shelter employment and residence are reserved for severe cases

Prognosis

- IQ > 70: favourable prognosis
- Most individuals will be able to obtain employment in a fairly routine job
- Successful relationships with the opposite sex leading to marriage are uncommon

16.3 Attention Deficit and Hyperkinetic Disorder

ADHD is characterised by attention deficit, hyperactivity and impulsivity.

16.3.1 Epidemiology

Prevalence

- **UK**: 1-3% (requires both hyperactivity and inattention)
- **US**: 5% (requires only either hyperactivity or inattention)

Gender ratio

M:F = 3:1

Peak age of onset

3-8 years

16.3.2 DSM-5 Diagnostic Criteria

ADHD is an American term; in the UK it is often known as 'hyperkinetic disorder'. The diagnostic criteria listed under ICD-10 and DSM-5 are similar.

An individual diagnosed with attention-deficit and hyperactivity disorder must have difficulties in terms of functioning, mainly due to (a) inattention and/or (b) hyperactivity and impulsivity. Onset must be younger than 7 years and should impair function in more than two settings (e.g. school and home).

The individual should fulfil at least 6 of the following signs and symptoms of inattention:

1. Failing to pay close attention to details
2. Concentration difficulties
3. Difficulties with sustaining attention at tasks
4. Daydreaming and does not seem to be able to follow normal conversations
5. Difficulties with organization of tasks
6. Reluctance to participate in tasks that involve much attention
7. Frequently loses important objects
8. Easily distractible and
9. Forgetfulness about daily activities

Aide de memoire

Symtpoms of inattention: **SOLID**

Starts tasks without finishing through
Organisation of tasks impaired
Loses things necessary for tasks and activities e.g. school assignments, stationery
Instructions not followed
Distraction by external stimuli

Only 5 of the above signs and symptoms of inattention need to be fulfilled if individuals are 17 years of age and above.

The individual should also fulfil at least 6 of the following signs and symptoms of hyperactivity and impulsivity:

1. Moving about and being unable to sit still
2. Leaves seat even when required to remain seated
3. Climbs or runs about in inappropriate situations
4. Always having excessive energy and always on the move
5. Chatting excessively
6. Impulsively giving answers even before being asked to
7. Having difficulty waiting for his/her turn
8. Unable to carry out normal conversation due to frequent interruptions

Only 5 of the above signs and symptoms of hyperactivity and impulsivity need to be fulfilled if individuals are above 17 years of age.

Aide de memoire

Symtpoms of hyperactivity and impulsiveness: **WORST FAIL**

Waiting for turns causes frustration
On the move most of the time
Restless and jittery
Squirms when seated
Talks excessively without appropriate response to social constraints
Fidgets with hands and feet
Answers blurted out before questions
Interruption of others' conversations
Loud noises when playing

Subtypes

1. **Combined presentation**: both clusters of signs and symptoms met for the past 6 months
2. **Predominantly inattentive presentation**: only inattentive signs and symptoms for the past 6 months
3. **Predominantly hyperactive/impulsive presentation**: only hyperactive clusters of signs and symptoms for the past 6 months

Other Specified Attention Deficit and Hyperactivity Disorder

This diagnostic category is reserved for individuals with signs and symptoms suggestive of ADHD but who do not meet the full diagnostic criteria.

16.3.3 Investigations

- Gather information about behaviours from school and home environment
- Administer Connor's Performance Test and Connor's Rating Scale for teachers and parents
- Arrange direct school observation by a member of the child psychiatry team whom the child has not met before in school
- Psychometric testing if there is evidence of intellectual disability e.g. IQ/academic assessment

- Physical examination, baseline height and weight measurement for the child
- Social investigations and engagement of medical social worker if there are underlying social issues

16.3.4 Comorbidities

- Sleep disturbance related to medication (18.5% in Singapore)
    - Daytime somnolence (13% in Singapore)
    - Insomnia (5.5% in Singapore)
- Conduct disorder/oppositional defiant disorder
- Depression and anxiety
- Substance abuse in adolescents

16.3.5 Management

NICE guidelines (UK) recommend that pharmacological treatment (e.g. stimulant) should be offered as first- line treatment in school-age children and young people with severe ADHD. Parents should also be offered a group-based parent-training or education programme.

Pharmacological

Primarily two types of medication are used in treatment of ADHD: stimulants and non-stimulants. Take a history specifically looking for exercise syncope, breathlessness and other cardiovascular symptoms. Physical examination should include measurement of heart rate and blood pressure (plotted on an age- specific centile chart), and examination of the cardiovascular system. An electrocardiogram (ECG) is required if there is past history of cardiac disease.

- **Methylphenidate** (stimulant)
    - **Pharmacodynamics**: dopamine reuptake inhibition and direct release of dopamine
    - **Formulations** (2 types in Singapore)
        - Ritalin
        - Concerta (long-acting)
        - Consider prescribing if parents can afford: allows single daily dosage and enhances adherence while reducing stigma
        - Start with 18mg OM and titrate up to 54mg/day
    - **Indications**
        - ADHD
        - ADHD with comorbid conduct disorder
    - **Beneficial effects**
        - Improve attention span and hyperactivity for a certain number of hours while in the school setting
    - **Monitor**: during treatment
        - Height

        - Weight
        - Cardiovascular status (including blood pressure)
        - Seizure
        - Tics, psychosis and anxiety symptoms (specific to methylphenidate)
    - **Side effects**
        - **Common**
            - **Stimulant side effects**: insomnia, headache
            - **Other side effects**: stomach pain, nausea, decrease in appetite, growth retardation
        - **Rare but serious**
            - Liver impairment, leucopaenia and death
        - Risk of misuse in adolescents with a history of stimulant misuse
- **Atomoxetine** (non-stimulant)
    - **Pharmacodynamics**: noradrenaline reuptake inhibition
    - **Indications**:
        - ADHD with tics
        - High risk of methylphenidate misuse
        - Poor response to methylphenidate
    - **Dose**:
        - Starting: 0.5mg/kg/day
        - Increase to 1.2mg/kg/day
    - **Monitor**: during treatment; particularly during initial months and after dose changes
        - Agitation
        - Irritability
        - Suicidal thinking and self-harming behaviour
        - Unusual changes in behaviour
- **Imipramine** (non-stimulant; TCA)
    - Widely used in the past but has weaker evidence in efficacy against ADHD and causes anticholinergic side effects

Non-Pharmacological

- **Training/education programmes**
    - Learn about ADHD, management and coping strategies
    - **For parents**: include individual/group-based parent-training/education
    - **For children/youth with ADHD**: include CBT or social skills training
    - **For teachers**: behavioural intervention training in the classroom to aid with coping
- **Behaviour therapy**
    - **Positive reinforcement**: reward system, praises, consider using a star chart
    - **Environmental modification**: improve attention e.g. place child in the front row of class, minimise distractions

A combination of behaviour therapy and medication has been shown to be better than medication alone.

16.3.6 Prognosis

Video 16.2 *Stressed Student*

- Many patients do not require medications when they get older
- Although symptoms of hyperactivity and impulsivity often improve as the child grows older, inattentive symptoms are likely to persist (50% persist)
- 25% of ADHD children still have symptoms at the age of 30
- It is appropriate to continue treatment in adults whose symptoms remain disabling
- 20% of ADHD children ultimately develop antisocial personality disorder
- 15% develop substance misuse

16.4 Conduct Disorder (CD) and Oppositional Defiant Disorder (ODD)

Epidemiology

- **Conduct Disorder**
    - **Prevalence**: 4% of children (UK)
    - **Socioeconomic status**: higher in socially deprived inner city areas and large families
    - **Gender ratio**: M:F = 3:1
    - **Onset**: begins in middle childhood
- **Mixture of ODD and CD symptoms**: 5-10% of children
- **UK**
    - Peak age of offending: between 14-17 years
    - Age of criminal responsibility: 10 years
    - Few juvenile offenders have an ICD-10 diagnosis
    - Most common type of offence: property offences and violent crimes accounting for 5% of the total offence
    - 5% of primary school children steal at least once
    - Comfort stealing occurs in socialised children who feel unloved by their parents but not associated with antisocial behaviour
    - In adolescence, the goal of stealing is to obtain money for personal pursuits

Aetiology

- **Genetic factors**: CD clusters in families as a result of shared environment or inheritance of antisocial trait from parents with criminal behaviours

- **Biological factors**: low plasma 5-HT level, testosterone excess ((↑ non-aggressive CD symptoms), low cholesterol and low skin tolerance are associated with CD
- **Psychological factors**:
    - **Fearlessness theory**: children with CD exhibit a lack of anxiety and fear
    - **Stimulation-seeking theory**: children with CD often have low arousal level and need to engage in antisocial behaviour to increase arousal levels o CD is associated with reading difficulty
- **Social factors**: Uncaring school, parental psychiatric disorder, parental criminality, hostility towards the child, avoidance of parental demands, seeking more parental attention via antisocial behaviour
- **Family factors**: single parent (death of same gender parent), parental psychopathology and overcrowding (> 4 children) environment associated with CD

ICD-10 Diagnostic Criteria

Table 16.1 *Comparing ICD-Criteria for CD and ODD*

	Conduct Disorder	Oppositional Defiant Disorder
General criteria	Repetitive and persistent pattern of behaviour in which either the basic rights of the others or major age appropriate societal rules are violated, lasting for at least 6 months	General criteria for CD must be met
Individual symptoms	**The child**: displaying severe temper tantrums, being angry and spiteful, often telling lies and breaking promises **To adults**: frequent argument, refusing adults' requests or defying rules and staying out after dark against parental prohibition (onset < 13 year old **To others**: annoying them deliberately, blaming them for his mistakes, initiating fights with others, using weapons to harm others, exhibiting physical cruelty (also to animals), confronting victims during a crime, forcing another person into sexual activity and frequently bulling others	At least four symptoms of CD must have been present for 6 months; usually temper tantrums, being angry and spiteful, arguing with adults, defying rules and blaming others Should not have more than two of the following: • Physical assault • Damage of property • Running away from school/home

	Conduct Disorder	Oppositional Defiant Disorder
	To objects or properties: deliberate destruction, fire-setting, stealing objects of value within home or outside and breaking into houses **Running away**: from school (truant < 13-year-old) and parental or parental surrogate home (at least twice) ICD-10 classifies CD into mild, moderate and severe Substance abuse is not a diagnostic criteria for CD	
Subtypes	**CD confined to the family context** **Unsocialised CD**: (poor relationships with the individual's peer group as evidenced by isolation, rejection, unpopularity and lack of lasting reciprocal relationship) **Socialized CD**: normal peer relationship. **Depressive CD**: both criteria of CD and mood disorders are met **Other mixed disorders of conduct and emotions**: criteria of CD and one of the neurotic, stress related, somatoform, disorders or childhood emotional disorders are met **Mixed disorders and emotions, unspecified**	No sub-categories Although ICD-10 does not specify ag, ODD patients are usually less than 10 years old with onset at 3-8 years and for a duration of at least 6 months; defiant behaviours usually occur at home with familiar people

DSM-5 Diagnostic Criteria: Conduct Disorder

There must be a repeated and persistent pattern of behaviour in which the basic rights of others or societal norms are violated. This should be manifested by the presence of at least 3 of the following, over a period of 12 months, with at least one criterion being fulfilled in the past 6 months:

1. Aggression to people and animals: bullying, intimidating others, initiating physical fights, using a weapon to cause serious physical harm to others, having been physically cruel to people or animals, having stolen while confronting a victim, or having forced a victim into sexual activity
2. Destruction of property: engaging in fire setting with the intention of causing serious damage, or intentionally destroying the property of others (via means other than setting fire)
3. Deceitfulness or theft: having broken into someone's home, having lied to obtain goods or favours to avoid obligations, or having stolen items of value without confronting a victim
4. Serious violations of rules: often staying out at night despite parental prohibitions, having run away from home overnight at least twice or having played truant from school

Additionally, for individuals who are 18 years and older, criteria for antisocial personality disorder must not be met.

DSM-5 Diagnostic Criteria: Oppositional Defiant Disorder

There must be a pattern of irritable mood, argumentative behaviour and vindictiveness for a duration of at least 6 months, accompanied by at least 4 of the following symptoms:

1. Irritable mood: loses temper easily, gets annoyed easily, or always angry and resentful
2. Argumentative behaviour: often gets into trouble with authority figures, often defiant toward requests made by authority figures, often does things to annoy others, or often blames others for his or her mistakes or misbehaviour
3. Vindictiveness: spiteful or vindictive at least twice within the past 6 months

16.4.1 OSCE Grid

Charles is a 14-year-old boy who presents with a five-year history of increasingly significant infringements of the law, truancy, repeated fighting and expulsion from two boarding schools. He is the younger of two children and has a 17-year-old sister, who is a high achiever. Both parents have a university education.

Task: take a history from his father to establish the diagnosis of conduct disorder.

Table 16.2 *OSCE Grid: Conduct Disorder*

A) Referral and past history			
A1) Source of referral	A2) Timing of referral	A3) Onset	A4) Long pre-existing history or behaviours

e.g. via GP, legal authorities, school authorities etc.	Reasons for the referral now given that he has a five-year history of behavioural disturbance	Acute onset and precipitant e.g. parental/marital disharmony, changes in the family, history of abuse or rejection	Adverse family environment and interaction style e.g. vague instructions, harshness, physical punishment, inconsistent discipline
B) Assessment of behavioural disturbances			
B1) Form of disturbed behaviour	B2) Severity of behaviour, types of CD	B3) Effects on family and others	B4) Reaction from parents
Enquire about symptoms of CD from Table 16.1, as well as other disturbed behaviours e.g. fire-setting, bed-wetting, school refusal, and their time of onset in relationship to CD	Gather sufficient information to classify his CD as mild, moderate or severe, and as socialised or unsocialised, child or adolescent onset.	Explore Charles' relationship with his elder sister; look for sibling rivalry	How parents have previously dealt with Charles' behaviours and which methods were effective or ineffective (common reactions include nagging, harsher punishment, coercive interactions, or lack of insight) Look for maintaining factors for Charles' problems
C) Assessment of psychiatric symptoms			
C1) Other child psychiatry symptoms	C2) Emotional state	C3) Psychotic features	C4) History of substance abuse
e.g. ADHD, past history of school refusal etc.	Depression: biological and cognitive symptoms Evidence of self-harm: laceration wounds, suicidal ideation	Currently or previously experiencing auditory or visual hallucination Explore any form of delusion	e.g. cannabis, solvent, alcohol misuse, smoking habit
D) Problems with school, accommodation, legal system			
D1) Expulsion from school	D2) Academic performance	D3) Accommodation	D4) Legal problems
Explore both public and private schooling; school environment (poor organisation, unfriendliness)	Reading, spelling or arithmetic difficulties Ask for the father's opinion on Charles'	Ask if he is living at home or elsewhere (e.g. if parents are unable to discipline him)	Ask for current and past involvement with the legal system

Ask about referral to counsellor or educational psychologist, and if he is currently attending school	primary and secondary school results		
E) Background history			
E1) Developmental history	E2) Family history of psychiatric illness	E3) Parenting, marriage, expectation	E4) Past medical history
Elicit a history of perinatal difficulties, developmental delay, low IQ, hearing impairment, early behavioural problems, difficult temperament, history of poor coordination and motor skills	In particular, ask for antisocial personality traits and forensic record in the parents, a history of parental alcoholism, parental psychiatric illness or parents who themselves had conduct disorder in the past	Identify parent's occupations; if parents work for long hours with little time for Charles; ask about marital problems, parental discord, parental disagreement Explore parental expectations on Charles in particular with other family members' achievements	As if any doctor has commented on abnormality in his nervous system or any atypical facial appearance (e.g. neurological 'soft signs' or syndromes associated with mental retardation) Ask if Charles suffers from any chronic medical illness (e.g. epilepsy)

Closing the Interview

Thank the father and invite him to ask further questions. Emphasis the important of assessing Charles alone and then together with the family including his elder sister. Further information will need to be obtained from school or other sources e.g. general practitioner.

Management

- **Setting of management**: inpatient (sometimes for CD) vs outpatient (CD and ODD); identify indications for hospitalisation e.g. detoxification if dependent on substances or present with risk of harming others
- **Safety issues**: evaluate potential risk to the child or others e.g. parents/siblings
- **Parent management training**: most evidence-based treatment by getting parents to pay attention to desired behaviour rather than being caught up in lengthy confrontations with the child; positive aspects of parent-child relationships are promoted and parents are also taught effective techniques for handling undesired behaviour (e.g. via video demonstrations); parents are advised to join a local support group
- **Family strategies**: couple therapy can address marital discord; family therapy can target specific patterns of family dysfunction, to encourage consistency in parenting style and to develop appropriate disciplinary strategies with limit-setting

- **Liaison with school and educational authorities**: address specific academic difficulties e.g. reading; encourage the child to return to school early if they are truant

Prognosis

33% of children with CD develop antisocial symptoms which persist into adulthood and become antisocial personality disorder.

16.5 School Refusal and Truancy

Table 16.3 *Comparing School Refusal and Truancy*

	School Refusal	Truancy
Family history of psychiatric disorders	• Anxiety disorders • Failure of parents to separate from own families of origin	• Antisocial personality disorder • Forensic history
Family size	• Small family • Being the youngest child	Large family size
Parenting style	• Over-protective parenting • Unassertive parents (ineffective father, over-anxious mother)	Inconsistent discipline
Age of child and aetiology	Trimodal peaks: • 5 years: manifestation of separation anxiety at school entry • 11 years: triggered by transfer to secondary school or avoidant character • 14-16 years: manifestation of depression/phobia e.g. agoraphobia/social phobia For children under 11 years, it is often triggered by illness or death of family members For children over 11 years, the child may have avoidant character with longstanding tendency to withdraw in challenging	More common in adolescents than younger children

	School Refusal	Truancy
	environment with poor self-esteem; unassertive outside family with poor give-and-take in peer relationships	
Symptoms	Overt anxiety at the time of going to school with 'somatic disguise' e.g. abdominal pain	Not associated with psychiatric symptoms but wilful intention to skip classes
Location when absent from school	Usually at home with parental permission Parents aware of child's whereabouts	• Usually outside home • Engage in alternative activities without parental permission/awareness
Academic performance	Satisfactory	Poor

16.6 Academic Difficulties

ICD-10 Diagnostic Criteria

For this diagnosis to be made the following abilities must be 2 standard deviations (SD) below the lower limit of the child's age and 1 SD below the non-verbal IQ:

- Specific speech articulation disorder
- Expressive language disorder
- Receptive language disorder
- Specific reading disorder
- Specific spelling disorder
- Specific disorder of arithmetical skills
- Specific developmental disorder of motor function

DSM-5 Diagnostic Criteria: Specific Learning Disorder

There must have been marked difficulties with learning and utilising learnt skills, even with remediation and interventions which has persisted for a total duration of at least 6 months.

Specific learning disorder might include difficulties with regards to:

1. Spelling
2. Written expression
3. Comprehending meaning of what is read
4. Word reading
5. Mastering numerics and calculation and mathematical reasoning

This diagnosis cannot be formulated if the individual has intellectual disabilities. In addition, the learning and utilizing skills must be significantly below the average expected based on an individual's chronological age.

Elective Mutism

- **Epidemiology**: 0.1%, peak age: 6-10 years, 50% have minor speech problems.
- **Clinical Features**: Language expression and comprehension is normal but there is consistent failure to speak in social situations when the child is expected to speak. It must last longer than 4 weeks.
- **Aetiology**: overprotective mother, distant father or trauma; not associated with social adversity
- **Management**: psychotherapy
- **Prognosis**: poor if duration longer than 12 months; 50% improve in 5 years

16.7 Gilles de la Tourette Syndrome

A tic is a sudden and repetitive motor movement or vocalisation.

Epidemiology

- **Age of onset**: 5-8 years
- **Gender ratio**: M:F = 3:1
- **Prevalence**: 10-25% of children manifest simple tics but Tourette disorder is rare (0.05%)

Aetiology

- Family loading with OCD
- Neurotransmitter dysregulation (dopamine excess, ↑D2 receptor sensitivity and noradrenaline may plays a role)
- Neuroanatomical area involved: basal ganglia
- PANDAS (Paediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal infections)
- Provoked by stimulants e.g. methylphenidate

Clinical Features

- Multiple motor tics and at least one vocal tic in the past
- Tics are sudden, rapid and involuntary movements of circumscribed muscles without any purpose.
- Vocal tics include grunting, snarling, coprolalia (involuntary utterance of obscene words, vulgarities) and echolalia (repeat speech of examiner)
- Absence of neurological disorder and absence during sleep
- Fluctuating course
- Two-thirds of patients have EEG abnormalities

ICD-10 Diagnostic Criteria

Tics occur many times per day on most days over 12 months, without remission for more than 2 months. Onset is before 18 years of age.

DSM-5 Diagnostic Criteria: Tic Disorder

Tic disorders are subclassified into 3 main subtypes which include:

1. Tourette disorder
2. Persistent (chronic) motor or vocal tic disorder
3. Provisional tic disorder

DSM-5 Diagnostic Criteria: Tourette Disorder

The individual must have experienced tics that have lasted for at least 1 year since the initial onset. Individuals usually have either multiple motor or vocal tics. The disorder should have its onset prior to the age of 18, and must not be due to an underlying substance usage or medical condition.

DSM-5 Diagnostic Criteria: Persistent (Chronic) Motor or Vocal Tic Disorder

Similarly, the onset is before the age of 18 years old, but the difference is that individuals usually present with either single or multiple motor or vocal tics that have lasted for at least 1 year in duration.

DSM-5 Diagnostic Criteria: Provisional Tic Disorder

The individual must have experienced either single or multiple motor and/or vocal tics, but the duration of symptoms has not met the 1 year criteria.

Associated Features

Obsessions, compulsions, learning difficulties, impulsivity, problems with attention, and emotional disturbance are associated with tic disorders.

Differential Diagnoses

1. **Transient tic disorder**: 10-20% of children, onset < 18 years; involving blinks, frowns, grimaces, head flicks, grunts, throat clearing, sniffs from 4 weeks to 1 year in duration with good prognosis
2. **Chronic motor or vocal tic disorder**: rare, onset < 18 years, duration> 1 year with remission < 2 months; associated with neurological disorders and pervasive development disorders

Management

General management strategies involve assessing the biopsychosocial aspects of Gilles de la Tourette syndrome with consideration of the developmental stage of the patient and impact on the family.

- **Pharmacological**
  - **Antipsychotics**: risperidone, sulpiride: effective, better tolerated than haloperidol
- **Psychological**
  - **Massed practice**: repeating tics as much as possible in an attempt to reduce them
  - **Habit reversal**: performing simultaneous incompatible movements to reduce unwanted movements
- **Social**
  - Remedial academic help
  - Behavioural modification
  - Family therapy
  - Self-esteem building
  - Social skill training

16.8 Enuresis and Encopresis

Enuresis refers to difficulty in urinary continence. Encopresis refers to difficulty in faecal continence.

16.8.1 Non-Organic Enuresis

DSM-5 Diagnostic Criteria

There must be:

1. Repetitive involuntary or intentional voiding of urine into bed or clothes
2. A frequency of at least 2 times a week for the past 3 months

This behaviour must have resulted in impairment in terms of functioning. This diagnosis can only be made for children of at least 5 years of age.

Epidemiology

- **Prevalence**: 10% at age 5, 5% at age 10, 1% at age 18
- **Gender ratio**: M:F = 2:1
- **Comorbidities**: 25% with psychiatric disturbance
- **Onset**: > 5 years
  - **5-7 years**: bedwetting at least 3 times/month
  - **> 7 years**: bedwetting at least once/month

Aetiology

- **Primary enuresis** (lifelong bedwetting)
    - **Associated factors**:
        - Family history
        - Small bladder
        - Large family size
        - Social adversity
        - Low IQ
        - Institutional upbringing
- **Secondary enuresis** (free of bedwetting for at least 6 months but return of incontinence)
    - **Causes**:
        - Stress
        - Urinary tract infection
        - Diabetes
        - Chronic Renal Failure
    - **Classification**:
        - Diurnal enuresis
        - Nocturnal enuresis

Investigations

Digital rectal examination and intravenous urogram (IVU) can be used; if the age of onset is greater than 15 years, urodynamic studies are required.

Management

- **Non-pharmacological**
    - **Fluid restriction**: at night
    - **Star chart**: effective in one-third of cases
    - **Alarm**: child must wake up and urinate; takes 8 weeks to produce dryness, effective in 70-90% of cases; one-third will relapse and require a second alarm trial
- **Pharmacological**
    - **Desmopressin**: ADH analogue, nasal route of administration
    - **TCA**: anticholinergic effect causes urinary retention

16.8.2 Non-Organic Encopresis

DSM-5 Diagnostic Criteria

There must be:

1. Repetitive passage of faeces into inappropriate places, whether involuntary or intentional
2. A frequency of at least once each month for the past 3 months

This diagnosis can only be made for children at least 4 years of age.

Epidemiology

- **Prevalence**: 1% in school children
- **Gender ratio**: more common in boys
- **Comorbidities**: stronger association with psychiatric disorders than enuresis
- **Age of onset**: at least 4 years of age (bowel control is acquired before bladder control)

Aetiology

Retentive encopresis as a result of anxiety (fear of soiling) or anger (protest against parents), poor toilet training (continuous encopresis) and pervasive development disorder should be considered as causes of non-organic encopresis. Doctors need to rule out other organic causes of constipation such as Hirschsprung disease.

Investigations

Barium enema and thyroid function test looking specifically for hypothyroidism can be used.

Management

- **Non-pharmacological**
  - **Education**: explain soiling process and role of rectal loading to parents
  - **Star charts**
- **Pharmacological**
  - **Oral laxatives**: regular defecation

16.9 Other Childhood Psychiatric Disorders

The following section covers other common childhood psychiatric disorders.

16.9.1 Pica

Pica is the persistent eating of non-nutritive substances at least twice per week for a total duration of 1 month. The patient's chronological and mental age must be more than 2 years.

Pica is associated with mental retardation, psychosis and social deprivation.

16.9.2 Sleep Disorders in Children and Adolescents

20-30% of children and adolescents in the general population have sleep problems that are of concern to their parents or GPs. 50% of children with either sleep walking or night terror have a positive family history. About 1 in 6 pre-school children have difficulty sleeping at night.

Typical day and night cycle occurs at 1 year of age. A full-term newborn sleeps 16 hours per day and this reduces to 13 hours in 6 months. By 6 months, 80% of babies sleep through the night and 10% of children at age 1 still awaken every night. Transitional objects may help the child to settle at night. A 2-year-old child sleeps 13 hours per day. A 5-year-old child sleeps 11 hours per day. A 9-year-old sleeps 10 hours per day.

Excessive Daytime Sleepiness

- **Causes**: asthma, sleep apnoea (2%), narcolepsy (1 in 10,000), Kleine-Levin syndrome

Dyssomnias

- **Causes**: associated with maternal depression
- **Management**:
    - Sleep hygiene: avoid daytime naps, reduce stimulation prior to sleep, consistent bedtimes
    - Melatonin treatment

Night Terrors

- **Epidemiology**: 6% of children; peak age 1.5-6 years
- **Clinical Features**:
    - Occurs in stage 4 of sleep (NREM or early part of the night)
    - Child wakes up terrified with a 'bloodcurdling' scream which typically terrifies parents and family
    - No recollection upon awakening
- **Management**:
    - Reassure parents
    - Help the child deal with any life stresses, ensure regular sleep routines
    - Waking a child during a night terror usually only worsens agitation
    - Pre-emptively waking the child: has been described but little evidence to support this

Somnambulism (Sleep-walking)

- **Epidemiology**: 10-15% of children; peak age 4-8 years
- **Clinical Features**: Child gets out of bed, walks while asleep without recollection upon awakening
- **Management**: ensure safety e.g. lock doors and windows
- **Prognosis**: usually resolves spontaneously

Nightmares

- **Epidemiology**: 25-50% of children; peak age 3-6 years
- **Clinical Features**: during REM sleep or second half of the night; child can recall the nightmare

16.9.3 Separation Anxiety Disorders of Childhood

Onset is before 6 years of age; duration is at least 4 weeks.

Table 16.4 *ICD-10 Diagnostic Criteria for Separation Anxiety Disorder*

Unrealistic Persistent Worry	Daytime Symptoms	Night-time Symptoms
Regarding possible harm befalling major attachment figures or loss of such figures; the child will have anticipatory anxiety of separation e.g. tantrums, persistent reluctance to leave home, excessive need to talk with parents, desire to return home when going out	Persistent reluctance or refusal to go to school in order to stay home due to fear of separation from a major attachment figure Repeated occurrence of physical symptoms e.g. nausea, stomach- ache, headache and vomiting	Difficulty in separating at night manifested by persistent reluctance or refusal to go to sleep without being near the attachment figure; the child also has repeated nightmares on the theme of separation

Prognosis

There appears to be a link between separation anxiety in childhood and panic disorder in adulthood.

16.9.4 Sibling Rivalry Disorder

The child has abnormally intense negative feelings toward an immediately younger sibling. Emotional disturbance is demonstrated with regression, tantrums, dysphoria, sleep difficulties, oppositional behaviour, or attention-seeking behaviour with one or both parents. Onset is within 6 months of the birth of an immediately younger sibling and duration of the disorder is 4 weeks.

16.9.5 Bullying

Bullying is common in schools. With advances in information technology, cyber-bullying is common nowadays. The main treatment includes counselling which allows the victim to work toward a solution within the school environment, gain support from friends and parents, and to stay away from difficult situations.

16.9.6 Schizophrenia with Adolescent Onset

Epidemiology

- 5% of adults experience their first episode of psychosis before the age of 15
- Very early onset schizophrenia: 13 years of age (0.9/100,000)
- Early onset schizophrenia: 18-year-old (17.6/100,000)
- Onset is commonest after 15 years
- Prognosis is worse with younger onset

Aetiology

Genetic predisposition, neurodevelopmental hypothesis with reduction in cortical volumes and increase in ventricular size, drug induced psychosis and organic causes (e.g. CNS infection) are causative.

Clinical Features

Visual and auditory hallucinations are common. 80% show exaggerated anxiety when admitted to the psychiatric ward. Mood disturbance, persecutory ideation, abnormal perceptual experience, and cognitive and social impairment may be present and should be screened for.

Compared to adults, passivity, well-formed delusions, thought disorders and first rank symptoms are less common in young people.

Differential Diagnoses

- Conduct disorder
- Severe emotional disorder
- Encephalitis

Management

Second-generation antipsychotics (e.g. risperidone) are the treatment of choice. Close liaison with a paediatric medicine specialist is necessary if the psychosis resulted from an organic cause.

16.9.7 Adolescent Depression

Epidemiology

- Similar to adult depression
- **Prevalence**: 8%
- **Gender ratio**: M:F = 1:4
- **Mean duration of illness**: 7-9 months

Aetiology

60-70% are caused by adverse life events, arguments with parents and multiple family disadvantages. A positive family history of depression is common.

Clinical Features

Usually similar to adult depression but promiscuity may be the presenting feature. Compared to adults, young people are less likely to have psychomotor retardation.

Management (NICE Guidelines, UK)

- **Mild depression**
  - Watchful waiting for 2 weeks
  - Offer one of the following for 2-3 months: supportive psychotherapy, CBT, guided self-help
  - No antidepressant required
- **Moderate/severe depression (including psychotic depression)**
  - **First-line**: individual CBT, short-term family therapy
  - **If non-responsive**: alternative psychotherapy, or add fluoxetine following multidisciplinary team (MDT) review
  - **If still unresponsive**: arrange another MDT review and consider either systemic family therapy (at least 15 fortnightly sessions) or individual child psychotherapy (30 weekly sessions)
- **Use of antidepressants**
  - Fluoxetine: 10mg/day is first-line treatment for young people requiring antidepressant
  - Escitalopram, sertraline: can be used if there is clear evidence of failure with fluoxetine and psychotherapy
  - Antidepressants should be discontinued slowly over 6-12 weeks to reduce discontinuation symptoms

Prognosis

- Remission rate: 90% (high) by 2 years
- Recurrence rate: 40% (high) by 2 years

Development of hypomania after taking antidepressants is an important predictor for bipolar disorder in future.

16.9.8 Suicide and Deliberate Self-Harm (DSH)

Epidemiology

- **UK**
  - **Prevalence**: 20,000 young people in England and Wales are referred to hospital for assessment of DSH each year
  - **Gender ratio**:
    - **DSH**: M:F=1:6
    - **Suicide**: M:F=4:1
  - **Age group**: suicide is common between 14-16 year olds
  - **Incidence**: suicide is the third commonest cause of death after accident and homicide
- **Singapore**
  - **Prevalence**: 5.7 per 100,000 for suicide
  - **Gender ratio**: M:F = 1:1 for suicide
  - **Race**: higher prevalence of suicide amongst ethnic Indians

Aetiology and Risk Factors for Suicide

Psychiatric disorders (e.g. depression, psychosis, substance abuse, CD), isolation, low self-esteem and physical illness have been implicated. 90% of adolescent suicide attempters suffer from psychiatric disorders. Family issues such as loss of parent in childhood, family dysfunction, abuse and neglect are also causative.

In Singapore, mental health service use is associated with unemployment, previous suicide attempts, family history of suicide, use of lethal methods, lack of identifiable stressor, and less likelihood of leaving suicide notes in adolescents who committed suicide.

The increase in adolescent suicide rates is a result of:

- **Availability of information**: 'copy-cat' suicides resulting from media coverage, fostering of illusions, ideals through internet suicide groups and pop culture
- **Psychiatric issues**: problems with identify formation, depression, substance abuse, teenage pregnancy
- **Social factors**: bullying, impact of unemployment for older adolescents, poverty, loosening of family structures, living away from home, migration, parental separation, divorce

Methods Used

- **UK**
    - **DSH**: cutting, scratching are common impulsive gestures; cutting often has a dysphoric reducing effect
    - **Suicide**: self-poisoning
- **Singapore**
    - Psychosocial stressors and suicide by jumping from heights are common in suicide victims

Management

- **Medical Issues** (e.g. self-lacerations)
    - Offer physical treatment with adequate anaesthesia
    - Do not delay psychosocial assessment; explain care process
    - Repeated self-poisoning: do not offer minimisation advice as there is no safe limit for overdose o Repeated self-injury: teach self-management strategies on superficial injuries, harm minimisation techniques, alternative coping strategies
- **Suicidal Adolescent**
    - Consider inpatient treatment after balancing benefits against loss of personal freedom
    - Involve patient in the admission process
    - Electroconvulsive therapy (ECT): may be used in adolescents with very severe depression and suicidal behaviour not responsive to other treatments

Prognosis

- **DSH**: 10% will repeat in 1 year (higher risk of repetition in older males)
- **Suicide**: 4% of girls and 11% of boys will kill themselves in 5 years after first episode of failed suicide attempt

16.9.9 Anxiety Disorders in Childhood

Epidemiology

- Prevalence of separation anxiety disorder: 3.6%
- At least 50% of adult cases of anxiety symptoms have their onset in childhood
- 2% of children have phobia

Aetiology

- **Infancy**: fear and anxiety provoked by sensory stimuli
- **Early childhood**: fear evoked by stranger and separation anxiety
- **Late childhood**: anxiety is caused by fear of dark, animals (more common in girls) and imaginary creatures

Phobic Anxiety Disorder of Childhood

The individual manifests a persistent or recurrent fear which is developmentally appropriate but causes significant social impairment. The duration of symptoms must be at least 4 weeks based on ICD-10 criteria.

Separation Anxiety Disorder

The symptoms of separation anxiety disorder include:

- Significant distress and worry at the time of separation from the caregiver (e.g. the time when the child goes to school or the caregiver needs to leave home for work)
- Clinging to the caregiver, crying, displaying temper tantrums, and refusing to participate in activities (e.g. refusing to enter the kindergarten and join classroom activities)
- Fear of harm to the caregiver when the caregiver goes to work
- Difficulties sleeping at night without the presence of the caregiver
- Development of somatic symptoms such as gastric discomfort, nausea, or headaches

Separation anxiety disorder is associated with school refusal. Although this disorder is more common in children, it may occur in adolescents.

Social Anxiety Disorder of Childhood

This diagnosis is characterised by persistent anxiety in social situations where the child is exposed to unfamiliar people including peers. The child exhibits self-consciousness,

embarrassment and over-concern about the appropriateness of his or her behaviour. The child has satisfying social relationships with familiar figures but there is significant interference with peer relationships. Onset of the disorder must coincide with the developmental phase and duration of symptoms must be at least 4 weeks based on ICD- 10 criteria.

Childhood Emotional Disorder

- **Prevalence**: 2.5%
- **Gender**: more common in girls
- **Favourable prognosis**: presence of anxiety and somatic complaints

Anxiety Disorders in Young Children

In general, sleeping difficulties and headache are common while panic attacks are less common. Behaviour therapy is the mainstay of treatment.

16.9.10 Childhood Onset Obsessive Compulsive Disorder (OCD)

Video 16.3 *Childhood Onset OCD*

Epidemiology

Boys have an earlier onset than girls. Childhood onset OCD is a rare condition.

Aetiology

- Genetic (5% of parents have OCD)
- Paediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections (PANDAS): caused by haemolytic streptococcal infection

Clinical Features

Insidious onset, fear of contamination, checking rituals, and worry about harm to self are common. Mild obsessions and rituals (e.g. magical number of repetitions in order to get good examination results) are part of normal development.

Comorbidities

- Tourette syndrome
- ADHD
- Anxiety
- Depression
- Bedwetting
- Sleep disturbance

- Motor changes
- Joint pain

Investigations for PANDAS

- Streptococcal titre
- Anti-streptolysin O titre (ASOT): rises 3-6 weeks following streptococcal infection
- Anti-streptococcal DNAse B titre (AntiDNAse-B): rises 6-8 weeks following streptococcal infection

Management

CBT is first-line treatment. Sertraline is licenced to treat OCD from the age of 6 years and fluvoxamine from the age of 8 years. Fluoxetine is indicated for OCD with significant comorbid depression, and is the drug of choice in childhood body dysmorphic disorder. Avoid TCA (except clomipramine), SNRIs, MAOIs and prescription-only antipsychotics without antidepressants. There is a delayed onset of action up to 4 weeks and full therapeutic effect up to 8-12 weeks. Duration of treatment is at least 6 months.

16.9.11 Post-Traumatic Stress Disorder (PTSD) and Adolescents

This occurs in young people exposed to traumatic events e.g. physical/sexual abuse, fatal accidents which occur to friends or relatives.

Clinical Features

- **Younger patients**: compulsive repetitive play representing part of the trauma, failure to relieve anxiety, loss of acquired developmental skills in language and toilet training, emergence of new separation anxiety
- **Adolescents**: depression is common in older children and adolescents; new aggression may emerge
- **Other adult symptoms**: e.g. nightmares, social withdrawal, numbing are common in young people

Management

- **CBT**: main treatment; focuses on psychoeducation and anxiety management
- **SSRIs**: may be indicated for severe anxiety and depression

16.9.12 Somatisation in Childhood

Epidemiology

Recurrent abdominal pain occurs in 10-25% of children between the ages of 3 to 9 years. Hysteria in childhood is rare with equal gender ratio.

Aetiology

- **Causes**: stress (bullying) and anxiety can initiate and amplify somatic symptoms; somatic symptoms are commonly associated with school refusal
- **Risk factors**
    - **In the child**: obsessional, sensitive, insecure or anxious personality
    - **In the family**: over-involved parents, parenta disharmony/overprotection, rigid rules, communication problems

Clinical Features

Recurrent localised abdominal pain lasting a few hours is commonly associated with emotional disorder. For hysteria, the child may present with disorders of gait or loss of limb function. Secondary gain is often implicated.

Management

- Reassurance
- Psychoeducation
- Behavioural therapy

16.9.13 Childhood Eating Disorders

Epidemiology

One-third of British children have mild to moderate eating difficulties by the age of 5 years.

Risk Factors

Male gender, low birth weight, developmental delay, early onset of the feeding problem, history of vomiting for long duration and higher social class have been implicated.

Classification

- **Childhood-onset anorexia nervosa**: weight loss, abnormal cognitions on weight and shape
- **Childhood-onset bulimia nervosa**: recurrent binges, lack of control, abnormal cognition

- **Food avoidance emotional disorder**: weight loss, mood disturbance, no anorexia nervosa features
- **Selective eating**: narrow range of food, unwilling to try new food
- **Restrictive eating**: smaller amount than expected, diet normal in terms of nutritional content
- **Food refusal**: episodic, intermittent or situational
- **Functional dysphagia**: fear of swallowing, choking and vomiting
- **Pervasive refusal syndrome**: refusal to eat, drink, walk, talk or self-care

Management

- **Behavioural therapy**: can enhance the motivation to eat, reduce behaviours which expel food, time- out for negative behaviours
- **Social skill training**: indicated for the child
- **Family therapy**: useful for younger patients with shorter duration of illness

Prognosis

- **Childhood onset anorexia nervosa**: two-thirds of children recover well

16.9.14 Substance Abuse in Adolescents

There are three types of abuse: experimental (initial use due to curiosity), recreational (continuous use) and dependent (strong compulsion to consume drugs).

Aetiology

- **Environmental factors**: widespread drug availability, high crime rate, poverty, cultural acceptance of drugs
- **School factors**: peer rejection and school failure
- **Family factors**: parental substance abuse and family conflict
- **Individual risk factors**: low self-esteem, high sensation-seeking and self-destruction

Epidemiology

- **Smoking**: two-thirds of 15-16-year-old adolescents smoke.
- **Alcohol abuse in adolescence**: (based on UK findings)
    - Gender ratio: equal sex incidence
    - 50% of 16 to 19-year-olds are regular drinkers
    - 50% of adolescents first taste alcohol at home
    - Alcohol dependence: associated with adolescent suicide
- **Volatile substances**: (solvent or glue)
    - Common method used by Singaporean adolescents (21% have tried)
    - Effects include: euphoria, disinhibition, impulsiveness, giddiness, nausea, vomiting, slurred speech, visual hallucination and paranoid delusion

    - Secondary school students prefer this method as they can be intoxicated in school
    - Chronic use leads to tolerance and withdrawal symptoms
- **Cannabis**:
    - UK, US, Australia: most adolescents have tried cannabis and most stop using cannabis in their 20s
    - Singapore: some university students who took cannabis during their electives overseas developed psychosis after returning to Singapore; about 1 in 10 students use it on a daily basis
    - May precipitate acute schizophrenia

Management

- **Substance misuse services referral**: should be a user-friendly service to promote self-referral and enhance collaboration with school and other agencies
- **Strategies**: harm reduction, motivational enhancement, family therapy

16.9.15 Abuse

Epidemiology

Around 4% of children up to the age of 12 are brought to the attention of professionals because of suspected abuse. The following are common contexts where the assessment of abuse takes place:

- Suspicion of abuse arising in the course of assessment or reported directly by the child pending further confirmation (e.g. abuse suspected because the child said something, changes occur in the childâ€™s behaviour or the presence of unexplained physical signs
- If abuse has already been confirmed, the doctor needs to assess the child to determine the effects of abuse, and safety issues, and recommend further treatment
- Allegations of abuse may arise for the first time during ongoing therapy of a child or an adolescent

Types of Abuse

- **Physical abuse**
    - **Physical injuries**
    - **Psychological consequences** e.g. unhappiness, wariness, watchfulness, excessive inhibition, aggressiveness, provocativeness, poor academic achievement
- **Emotional abuse**
    - May involve persistent negative attitudes, use of guilt and fear as disciplinary practices, ignorance or exploitation of the child’s immature developmental status
- **Sexual abuse**
    - **Epidemiology**
        - Most cases arise within the family
        - Gender: girls are more frequently abused than boys

        - Overall rate is 10% for both genders combined and this figure includes marginal sexual abuse
        - Prevalence of cases involving physical/genital contact:1%
        - 20-40% of abused children also have physical evidence of abuse
        - Singapore: most are young (74% below age 9) and female (78.9%) with perpetrators who are males and usually known to the victims
        - American vs Singaporean college female victims of abuse:
            - American women more likely to report a history of child sexual abuse, and to report experiencing more severe forms of sexual abuse
            - Women in Singapore more likely than women in the US to report a history of child physical abuse, to report experiencing injury as a result of the abuse, and to disclose the abuse; Singaporean women with a history of child sexual abuse reported elevated psychological symptom levels relative to their non- abused peers and to US women with a history of child sexual abuse, even after controlling for exposure to other types of traumatic events
            - No significant differences in symptomatology with regard to child physical abuse were observed between two ethnic groups
    - **Management**
        - Any disclosure of childhood sexual abuse should be taken seriously
        - Obligation to protect child overrides medical confidentiality
        - Doctor can initiate police/social service referral
    - **Prognosis**
        - Poor self-esteem common
        - May have difficulty with future sexual relationships
        - May become a perpetrator of future sexual abuse

16.10 Child and Adolescent Psychiatry Ethics

Gillick Competence

A child below the age of 16 years can give consent to treatment without parental agreement (e.g. contraception) provided that the child has achieved sufficient maturity to understand fully the treatment proposed. The child has no right to refuse treatment that is in his or her best interests.

16.11 Intellectual Disability

DSM-5 Diagnostic Criteria

For this diagnosis to be made, an individual must have deficits in the following main areas:

1. Skills required for intellectual functioning (impairments in development of intellectual functioning must be confirmed by means of standardized psychometric testing)

2. Skills required for independent social living, such as having the ability to handle activities of daily living independently

The onset of these deficits must be within the developmental period of any individual.

Sub-classification

- Profound
- Severe
- Moderate
- Mild

The current terminology of Intellectual disability corresponds to the ICD-10 terminology of intellectual developmental disorders.

It is crucial to take note that the classification of subtypes is based on the levels of support an individual requires with regards to independent social living, and is not in accordance to the psychometric scores achieved on psychometric testing.

Table 16.5 *Classification of Learning Disabilities*

Mild Mental Retardation	• IQ range: usually between 50 to 69 • Accounts for approximately 85% of all learning disabilities • Noted to have delayed understanding and usage of language • Mild difficulties in gaining independence • Work possible in practical occupations • Any behaviour, social and emotional difficulties are similar to the 'normal' child
Moderate Mental Retardation	• IQ range: usually between 35 to 49 • Accounts for approximately 10% of all learning disabilities • There are varying profiles and abilities • Language use and development are variable, and may even be absent • Commonly associated with epilepsy and neurological and other disabilities • Delay in achievement of self-care • Simple practical work might be possible for the individual • Independent living rarely achieved
Severe Mental Retardation	• IQ range usually between 20 to 34 • Accounts for 3% of all learning disabilities • More marked motor impairment often found • Achievements are at lower end of moderate mental retardation
Profound Mental Retardation	• IQ difficult to measure but <20 • Accounts for 2% of all learning disabilities

	• Severe limitations in ability to understand or comply with requests/instructions • Little or no self-care • Mostly severe mobility restriction • Basic or simple tasks may be acquired (for example, matching and sorting)

History

- Reproductive and obstetric history of mother
- Family history of intellectual disability
- Aetiology of intellectual disability e.g. syndromic, head injury, birth complications, severe neonatal infection
- Family's attitude and coping ability toward the condition
- Previous highest level of functioning
- Recent life events
- Circumstances immediately prior to presenting complaint if any e.g. temper tantrums, aggression, behaviour problems

Techniques to Interview People with Intellectual Disabilities

- Talk to the child first
- Use simple and short sentences
- Use less verbal language
- Attend to non-verbal cues
- Use open and closed questions
- Avoid leading questions and beware of suggestibility
- Make comments rather than questions
- Allow time for the patient to respond
- Try to interview in a familiar setting if possible

Management

Treatment involves comprehensive multi-disciplinary assessment and identification of target symptoms and signs. Consent issues must be properly addressed.

- **First-line**: behaviour therapy
- **For challenging behaviours**: a psychiatrist should be consulted for the possibility of initiating psychotropic medications e.g. antipsychotics or mood stabilisers

16.11.1 Down Syndrome

Epidemiology

- **Western Countries**

    - **Prevalence**
        - Commonest cytogenic cause of intellectual disability: accounts for 30% of all children with mental retardation
        - 1 in 800 live births (1/2500 if mothers < 30 years old and 1/80 if > 40 years old)
- **Singapore**
    - **Prevalence**
        - Live-birth prevalence fell from 1.17/1000 in 1993 to 0.89/1000 in 1998 as a result of antenatal diagnosis and selective termination

Genetic Mechanism

- **Meiotic non-dysjunction or trisomy 21**: 94%
- **Translocation of chromosome 21**: 5%
- **Mosaicism**: 1%
- **Robertsonian translocations**: due to fusion of chromosome 14 and 2
    - Extra chromosome usually of maternal origin (90%)
    - Most maternal error occurs during the first meiotic division
    - Risk of recurrence of translocation: 10%

Intelligence Quotient (IQ)

- Children & young adults: 40 - 45
- Social skills more advanced than intellectual skills

Comorbidities

- **Alzheimer disease** (50-59-year-old = 36-40%; 60-69-year-old = 55%)
    - High incidence of neurofibrillary tangles and plaques after the age of 40
    - Immune system impaired resulting in high risk for diabetes (autoimmune)
    - Hypothyroidism is common
    - Most common cause of death is chest infection
- **Common psychiatric comorbidities**: OCD (especially presenting with a need for excessive order/tidiness), autism, bipolar disorder, psychosis, sleep apnoea

16.11.2 Fragile X Syndrome

Epidemiology

- Most common inherited cause of intellectual disability
- Affects 1 in 2000 females; 1 in 700 females is a carrier
- Affects between 1 in 4000 and 1 in 6000 live male birth

Mode of Inheritance

- X-linked dominant with low penetrance

- Affects both males & females
- CGG trinucleotide repeats (TNR) on long arm of X chromosome leading to methylation and turning off of the FMR-1 gene
- Proposed need to incorporate fragile X testing in routine screening of patients with developmental delay in Singapore

Intelligence Quotient (IQ)

- **Females**: variable mild learning disability
- **Males**: moderate to severe learning disability (80% males have IQ < 70)
- Length of TNRs inversely related to IQ: shorter length (< 200 triplets) may not cause methylation and hence better IQ scores

Clinical Phenotypes:

Men are more likely than women to exhibit typical physical features (only 1 in 5 males affected by mutation at fragile site are phenotypically and intellectually unaffected).

Other behaviour includes hyperactivity, self-injury and social anxiety disorder

16.11.3 Turner Syndrome

Epidemiology

- Occurs every 1 in 3300 live births

Mode of Inheritance

- Non-disjunction of paternal XY results in sex chromosomal monosomy
    - 50% have a karyotype consisting of 45X or 46XX mosaicism
    - 50% have 46 chromosomes with one normal X and the other X abnormal (in the form of a ring, long arm isochromosome, or partially deleted X chromosome)

Intelligence Quotient (IQ)

- Normal or mild learning disability, with subtle defects in visuospatial perception and fine motor skills

Clinical Phenotypes

- **In utero**: hydrops fetalis occurs in most foetuses with Turner syndrome due to delayed maturation of the lymphatic drainage system
- **At birth**: normal female phenotype with residue of intrauterine edema in the form of neck webbing and puffy extremities
- **Early childhood**: short stature becomes apparent

- **Adulthood**: average adult height is 140-145cm

Comorbidity

Infertility is very common in females with full Turner syndrome due to ovarian dysgenesis. Pregnancy has been achieved in a small number of female patients by embryo transplantation following IVF using their partner's sperm and donor egg.

16.11.4 XYY Syndrome

Epidemiology

- **Prevalence in general population**: 1 in 1000 male neonates
- **Prevalence in maximum security hospitals**: up to 3% of patients in maximum security hospitals

Mode of Inheritance

- Primary non-disjunction of Y chromosome
- About 10% have mosaic 46XY/47XYY chromosome complement
- Offspring rarely have two Y chromosomes

Intelligence Quotient (IQ)

Mild learning disability; verbal skills are delayed.

Clinical Phenotypes

1. Taller than average with very mild physical abnormalities
2. Proportionate tall stature with enlarged teeth and increased susceptibility to developing acne
3. Some individuals show muscle weakness with poor coordination
4. Normal sexual development and fertility

16.11.5 Klinefelter Syndrome

Epidemiology

- **Incidence**: between 1 in 500 and 1 in 1000 live male births

Mode of Inheritance

50% are due to maternal and 50% are due to paternal non-disjunction. When non-disjunction is paternally derived, it is associated with advanced paternal age. 80% of males with Klineflelter's syndrome have a 47XXY karyotype with the additional X chromosome being derived equally from meiotic errors in each parent. Other karyotypes include 47XXY or 46XY mosaicism and more severe X chromosome aneuploidy such as 48 XXXY and 49 XXXXY.

Intelligence Quotient (IQ)

Usually mild learning disability with some difficulty in acquiring verbal skills; 48 XXXY and 49XXXXY are associated with more severe learning disability and marked hypogonadism.

Clinical Phenotypes

- Newborn boys with Klinefelter's syndrome are clinically normal
- Sexual orientiation usually normal, resulting in heterosexual marriage
- Usually introverted; less assertive and sociable

16.11.6 Lesch-Nyhan Syndrome

Epidemiology

- **Incidence**: 1/380000; exclusive to males

Mode of Inheritance

- X-linked recessive

Intelligence Quotient (IQ)

- Mild to moderate learning disability

Clinical Phenotypes

- Infancy: orange uricosuric acid sand found in the nappy; thereafter development of hypotonia followed by spastic choreoathetosis, dysphagia and dysarthria
- Age of onset of self-injurious behaviours is before the age of 3; lips and fingers are often bitten
- Generalized aggression with tantrums directed against objects and people

Comorbidity

- Epilepsy (50%)

Management

- **Behavioural intervention**: may be useful in reducing self-injurious behaviour if well-planned
- **Allopurinol**: reduces uric acid levels but has no psychiatric benefit

16.11.7 Prader-Willi Syndrome

Epidemiology

- **Prevalence**: 1/10,000 births; 90% sporadic

Mode of Inheritance

- Deletion of chromosome 15q11-13 of paternal origin
- Maternal uniparental disomy (sporadic with no risk of recurrence): 25%
- Imprinting error: can have a recurrence rate up to 50%
- Main gene implicated is SNRPN (small nucleoribonucleoprotein)

Intelligence Quotient (IQ)

- Mild to moderate learning disability and speech abnormalities

Clinical Phenotypes

- Infancy:
    - Hypotonia: leads to feeding difficulties and failure to thrive
    - Triangular mouth: also causes feeding and swallowing problems in infancy
- Childhood: orthopedic problems such as congential dislocation of hip, scoliosis
- Adolescence: behavioural disorders (e.g. over-eating, obesity, self-injurious behaviour, compulsive behaviour), being oppositional, sleep disorders, skin picking, compulsive or anxiety neuroses

Comorbidity

- Obsessive compulsive disorder

Management

- Dietary restriction to reduce obesity

16.11.8 Angelman Syndrome

Epidemiology

- 1/20000 to 1/30000

Mode of Inheritance

- **Microdeletion of chromosome 15 bands q 11-13**: 70%
- **Paternal uniparental disomy**: 2-5%
- **Imprinting mutations**: 2-5%
- **UBE3A mutations**: 20%
    - Severe psychomotor retardation in Angelman syndrome is attributed to abnormal expression of UBE3A

Intelligence Quotient (IQ)

- Severe or profound learning disability

Clinical Phenotypes

- 'Happy puppet' syndrome (paroxysms of laughter and ataxia)
- Axial hypotonia
- Jerky movements
- Affectionate and cheerful disposition

Comorbidities

- Epilepsy (90%)
- EEG changes develop during the first year of life
- Gastrointestinal problems: reflux, rumination, pica
- Attention deficit syndrome
- Sleep disturbances

Key Learning Points

1. Autism is the most heritable psychiatric condition, with a heritability of over 90%.
2. Autism is characterised by a tetrad of onset before 3 years of age, abnormal reciprocal social interactions, abnormal communication, and restricted stereotyped repetitive behaviour.
3. Based on Western studies, the most important predictors for prognosis of autism are childhood IQ and presence of speech by 5 years, and the prognosis is generally poor with only 10% able to work independently.
4. In autistic disorder, performance IQ is better than verbal IQ, whereas in Asperger syndrome the reverse is true (verbal IQ is better than performance IQ).
5. Attention deficit and hyperkinetic disorder (ADHD) is characterised by hyperactivity and impulsivity, or inattention, or both.
6. In prescribing methylphenidate or atomoxetine for ADHD, it is important to monitor for cardiac and growth side effects for both, but in addition suicidal thinking and self-harming behaviour must be monitored when prescribing the latter drug.
7. When evaluating an adult who presents seeking methylphenidate for ADHD symptoms, it is necessary to correlate with a known childhood history of ADHD as methylphenidate is an amphetamine relative and is known to be sought after for cognitive enhancement as a drug of abuse.
8. Conduct disorder is characterised by disregard for the rights of others, manifested by behaviour such as aggression to people and animals, destruction of property, and theft, as opposed to oppositional defiant disorder which should not have such symptoms.
9. School refusal occurs in anxious children who complain of somatic symptoms to their parents in order to avoid going to school, whereas truancy more commonly occurs in adolescents who do not inform their parents of their intention to skip school and engage in alternative activities without parental permission and awareness.
10. Childhood obsessive compulsive disorder (OCD) and Tourette syndrome can both be caused by Paediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal infections (PANDAS) and hence asking for upper respiratory infective symptoms prior to onset during the history may be of value.

Revision MCQs and MEQs

MCQ

1. You are the GP in an HDB estate. A mother brought her 2-year-old boy because she worries that he may suffer from autism. Which of the following characteristics is not a criterion to refer this child for specialist assessment based on MOH guidelines?

a. He has no babble, pointing or other gestures by 12 months
b. He cannot say a single word by 18 months
c. He has rapid loss of language or social skills at the age of 20 months
d. He does not have spontaneous 2-word phrases by 24 months
e. He cannot sing in the playgroup with other children at the age of 26 months

Answer:
Options A, B, C and D are MOH referral criteria.

2. A 30-year-old unemployed man comes to the Accident The mother of a 14-year-old boy with ADHD consults you about the side effect of methylphenidate. Which of the following statements is false?

a. Methylphenidate almost always delays physical growth
b. Drug holidays are required to facilitate growth
c. Methylphenidate suppresses appetite
d. Methylphenidate causes insomnia
e. Tolerance is very common in patients who continue methylphenidate for the long-term

Answer:
Option E is false because most patients do not develop tolerance (i.e. need to take a higher dose of the medication to achieve the same clinical effect) of methylphenidate if the medication is used for long- term.

3. A 13-year-old boy has dropped out from secondary school. He is odd and not accepted by his classmates. Your consultant recommends to rule out Asperger's syndrome. Which of the following features does not support this diagnosis?

a. Language delay
b. Marked clumsiness
c. Restricted and repetitive behaviours
d. Social withdrawal
e. Worries about the welfare of his classmates

Answer:
Asperger syndrome is different from autism as the former condition is not associated with language delay.

MEQ

You are a resident in paediatrics. A 10-year-old boy is referred to you as he has been very active and disruptive in school. The school is considering suspending him because of his behaviour. Developmental milestones are known to be normal. His mother is very concerned and brought her son to the children's emergency for assessment.

1. State three differential diagnoses.

Answer:
Attention deficit and hyperkinetic disorder (ADHD)
Conduct disorder or oppositional defiant disorder
Intellectual disability and behaviour problems

2. If you suspect that this child has ADHD, name five inattentive symptoms you will look for based on DSM-IV-TR diagnostic criteria.

Answer:
Starts tasks or activities but is unable to follow through and finish
Organisation of tasks or activities is impaired
Loses things necessary for tasks and activities such as school assignments or stationery
Instructions are not followed
Distraction by external stimuli
Other features include careless mistakes and forgetfulness in daily activities

3. How would you gather feedback regarding his behaviour at school?

Answer:
Advise his parents to pass Connor's Performance
Scale to the teacher for assessment
Send an educational psychologist to observe the child's behaviour in class with permission of the school and his parents

4. You are concerned about the safety of this child. What potential risks are associated with ADHD in this boy?

Answer:
Risk of accident (e.g. road traffic accident)
Risk of fall/head injury

5. The mother read an article which states that artificial colouring and additives cause ADHD in children. What is your advice to the mother?

Answer:
Emphasise the value of a balanced diet, good nutrition and regular exercise for the child
There is no need to eliminate certain foods from the diet
Parents can keep a diary if there are foods or drinks which appear to affect the child's behaviour; they can consult a dietician if necessary

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EMIS

1. A 6-year-old girl speaks very clearly and fluently with her friends at school but becomes mute at home. This is known as:

a. Elective mutism
b. Akinetic mutism
c. Hysterical

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Chapter 17
Forensic Psychiatry & Legislation

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17.1 Shoplifting and Fire-Setting

The following section covers common crimes associated with psychiatric disorders.

17.1.1 Shoplifting

Most shoplifting is a conscious and goal-directed activity without psychiatric disorder.

Contributing Factors

- Gain
- Organised criminal activity
- Poverty
- Low self-esteem
- Frustration
- Boredom
- Thrill-seeking

Epidemiology

- UK: 60% committed by women but convictions higher in men
- Only 2% referred by psychiatric assessment
- Bimodal peaks: 50-60 years and teenagers

Psychiatric Aetiologies

- **Adults**
  - **Common**
    - **Depression**: may represent a â€˜cry for helpâ€™ or a wish to be punished in depressed people with excessive guilt; make little effort to conceal their actions; absentmindedness as a result of poor concentration is an acceptable defence
    - **Acute stress reaction**
    - **Adjustment disorder**
  - **Less common**
    - **Personality disorder** (17%)
    - **Acting on delusions** (15%)
    - **Intellectual disability** (11%)
    - **Dementia/delirium** (5%)
    - **Mania**
    - **Influence from drugs** (3%)
    - **Dissociative states**
    - **Epilepsy**
- **Children**
  - **Distressed** children often steal for self-comfort

- **Conduct disorder/antisocial personality traits**: peak age is 15 years

17.1.2 Kleptomania

Kleptomania is an impulse control disorder characterised by repeated failure to resist the impulse to steal in which tension is relieved by stealing.

Epidemiology

- F:M = 4:1

Clinical Features

- **Compulsion**: characterised by feeling of tension associated with particular urge to steal
  - Recognised as senseless and wrong
- **Excitement** during theft
- **Relief** and **guilt** after completing the act
- Stealing is not an expression of anger or part of antisocial personality trait

Pure kleptomania is extremely rare. Such compulsions are associated with depression, anxiety, bulimia nervosa, sexual dysfunction and fetishistic stealing (e.g. women's underwear). Objects are not acquired for personal use (e.g. same set of T-shirts) or monetary gain and may be discarded, given away, or hoarded after stealing.

17.1.3 Arson

Motives

- **Common**
  - **Revenge**
  - **Fraudulent insurance claims**
- **Less common**
  - Anger
  - Need to relieve **tension** by fire-setting

Epidemiology

- Higher representation of men with intellectual disability (IQ 70-79)
  - Display passive aggression and sense of power/excitement
- 20-30% of arsonists have psychiatric disorders (e.g. commoner: alcoholic misuse; less common: schizophrenia)

Pyromania is a rare condition in which the arsonist derives sexual satisfaction through fire-setting.

17.2 Common Psychiatric Disorders and Crime

Schizophrenia patients have a similar rate of offending as the general population but have a minor increase in risk of committing violent crime. They are more likely to be arrested than other offenders. Schizophrenia patients usually assault a known person when they are violent. Delusional ideas often motivate violent behaviours and patients usually admit experiencing command hallucinations during the act. Those with negative symptoms commit violent offences inadvertently and neglectfully.

If a schizophrenia patient commits murder under the influence of psychotic experiences (e.g. command hallucination) at the time of the act, he or she will be exempted from capital sentence as a result of diminished responsibility of McNaughton's rule.

Table 17.1 *Relationship between Psychiatric Disorders and Criminal Behaviour*

Psychiatric Disorders	Criminal Behaviour
Affective Disorder	• Shoplifting in middle-aged offenders may be associated with depression • Violent offences in depression are rare • Offences are more common in mania and hypomania than in depression
Personality Disorder	• The term 'psychopathic disorder' should only be used as a legal category • Usually mixed types • Wide range of personality traits (e.g. immaturity, inadequacy, hostility, aggression) may contribute to offending behaviour
Intellectual Disability	• Offences more likely in mild/moderate mental retardation than in severe mental retardation • Property offences often committed with a lack of forethought and are opportunistic • Offences broadly similar to those in offenders without mental retardation although increased rates of sexual offences and fire-setting in patients with mental retardation are reported
Organic States	• Personality change is a frequent early feature of dementia such as frontal lobe dementia • In general, offending by dementia patients is uncommon • Commonest offence is theft • Antisocial behaviour may appear before neurological/psychiatric disturbance in Huntington disease • Patients with epilepsy have similar rates and types of offences as those of offenders in general • No excess of violent crimes in epileptic prisoners • Increased prevalence of epilepsy in prisoners (2 times of general population) is a result of common social and biological adversity leading to both epilepsy and crime

Psychiatric Disorders	Criminal Behaviour
Substance Abuse	• Alcohol misuse more commonly seen in > 50% perpetrators and victims of violence/rape • Substance misuse common associated finding in offenders with antisocial personality disorder

17.3 Sexual Offences

The following section covers sexual offences which are psychiatric disorders.

17.3.1 Exhibitionism

Exhibitionism is a summary (i.e. minor) sexual offence and is a form of paraphilia.

Epidemiology

- One of the commonest sexual offences committed by men
- 50% of exhibitionists appearing in court have no previous conviction
- Commonest age group: 25-35-year-old men
- Characteristically takes place at a distance
- Rarely associated with learning disability or psychiatric disorders

Table 17.2 *Factors Suggesting High Risk of Reoffending in Indecent Exposure*

Exhibitionist history	1. Previous sexual offences (touching or harassing females) and conviction on more than three occasions in the past 2. Previous non-sexual violent offences or conduct disorder which predicts higher risk of future offending
Victim characteristics	Pubescent and prepubescent females are more likely to be targeted. Young girls are twice as likely as young boys to be targeted by paedophiles.
Current psychosocial factors	1. High levels of social inadequacy 2. Distorted thinking 3. High levels of sexual obsessions
Attitude toward victims	1. Lack of victim empathy 2. Abnormal emotional congruence to victim 3. Touch and harass victim
Type of exhibitionists	**Erect penis + masturbating**: aggressive man with antisocial PD, higher risk for reoffending

	Flaccid penis: inhibited temperament, struggling with guilt, at time of stress, lower risk for reoffending

Management

- **Non-pharmacological**
  - **Counselling or CBT**: to think of negative consequences of exhibitionism
  - **Behavioural techniques**: self-monitoring
- **Pharmacological**
  - **Anti-libidinal medication** e.g. cyproterone acetate (possible side-effects include aesthenia, lassitude, gynaecomastia, depression, inhibition of spermatogenesis, erection

17.3.2 Sex Offenders

Epidemiology

- UK: 35% of sex offenders have a mental illness
- Sex offenders with mental illnesses less likely to target children; victims less likely to be women
- Unsocialised rapists have high incidence of conduct disorder
- Approximately 90% of rapists do not commit a second rape; great majority of perpetrators of sexual crimes begin their offending behaviour in adolescence
- 20% of victims develop chronic anxiety and depressive symptoms

Characteristics

- There is often a history of cold and affectionless upbringing by unloving parents (e.g. violent father and over-involved mother)
- Majority of rapists fail to ejaculate; many rapists suffer relative impotence during the act Management

Figure 17.3 *Management of Sex Offenders*

Advice to the court	1. Advice on sentencing and setting of treatment based on risk and psychiatric comorbidity. (Prison, inpatient, community) 2. Monitoring to ensure community safety 3. Remove incest perpetrator from home and implement child protection
Sexual Offender Treatment programme (SOTP) - involves a CBT approach	1. Increase offender's responsibility and motivation 2. Thinking skills programme 3. Extended programme: Anger management Stress management Relationship skills 4. prevention (CBT: targets at offending cycle)

Pharmacological treatment	Antilibidinal drugs - last option; Cyproterone acetate: not a controlled drug, require patient's consent, reduces gonadotropin production at hypothalamus and decrease circulating testosterone but increases circulating prolactin.
Types of psychological treatments	1. CBT: sound evidence base 2. Victim empathy: observe consequences of actions and reduce denial 3. Behavioural treatments (aversive, sensitisation, biofeedback with phallometry) 4. Social skills training, sex education

SSRIs can be used to treat sex offenders due to their side effect of sexual dysfunction

17.4 Local Mental Health Legislation

The following section covers Mental Health (Care and Treatment) Act (previously known as Mental Disorder and Treatment Act) and Mental Capacity Act.

17.4.1 Mental Disorder and Treatment Act (MDTA)

The MDTA can only be applied at the Institute of Mental Health (IMH) in Singapore as it is the only gazetted mental hospital at the time of writing.

Table 17.4 *Mental Disorder and Treatment Act (Singapore)*

Admission for treatment	1. A person may be admitted to a psychiatric institution and there detained for treatment in accordance with the provisions of this Act for the period allowed by the provisions of this Act. 2. Nothing in this Act shall be construed as preventing a person who requires treatment for any mental disorder — a. from being admitted to a psychiatric institution without any order or directive rendering him liable to be detained at a psychiatric institution; or b. from remaining in a psychiatric institution after he has ceased to be so liable to be detained.
Apprehension of mentally disordered persons	It shall be the duty of every police officer to apprehend any person who is reported to be mentally disordered and is believed to be dangerous to himself or other persons by reason of mental disorder and take the person together with a report of the facts of the case without delay to — a. any medical practitioner for an examination and the medical practitioner may thereafter act in accordance with section 9; or

	b. any designated medical practitioner at a psychiatric institution and the designated medical practitioner may thereafter act in accordance with section 10.
Referral to psychiatric institution	Where a medical practitioner has under his care a person believed to be mentally disordered or to require psychiatric treatment, he may send the person to a designated medical practitioner at a psychiatric institution for treatment and that designated medical practitioner may thereafter act in accordance with section 10.
Admission and detention for treatment	1. A designated medical practitioner at a psychiatric institution who has examined any person who is suffering from a mental disorder and is of the opinion that he should be treated, or continue to be treated, as an inpatient at the psychiatric institution may at any time sign an order in accordance with Form 1 in the First Schedule — a. for the admission of the person into the psychiatric institution for treatment; or b. in the case of an inpatient, for the detention and further treatment of the person, and the person may be detained for a period of 72 hours commencing from the time the designated medical practitioner signed the order. 2. A patient who has been admitted for treatment or detained for further treatment under an order made under subsection (1) may be detained for a further period of one month commencing from the expiration of the period of 72 hours referred to in that subsection if — a. before the expiration of the period of 72 hours, the patient has been examined by another designated medical practitioner at the psychiatric institution and that designated medical practitioner is of the opinion that the patient requires further treatment at the psychiatric institution; and b. that designated medical practitioner signs an order in accordance with Form 2 in the First Schedule. 3. A patient who has been detained for further treatment under an order made under subsection (2) shall not be detained for any further period at the psychiatric institution for treatment unless before the expiration of the period of one month referred to in that subsection, the patient has been brought before 2 designated medical practitioners working at the psychiatric institution, one of whom shall be a psychiatrist, who have examined the patient separately and who are both satisfied that he requires further treatment at the psychiatric institution.

4. Each of the designated medical practitioners referred to in subsection (3) shall sign an order in accordance with Form 3 in the First Schedule.
5. Two orders signed in accordance with subsection (4) shall be sufficient authority for the detention of the patient to whom they refer for a period not exceeding 6 months commencing from the date of the order.
6. A person shall not be detained at a psychiatric institution for treatment unless —

    a. he is suffering from a mental disorder which warrants the detention of the person in a psychiatric institution for treatment; and
    b. it is necessary in the interests of the health or safety of the person or for the protection of other persons that the person should be so detained.

17.4.2 Mental Capacity Act (MCA)

Principles

The key principles of the MCA are derived from the fundamental right of every patient to autonomy. This means that every patient should be assumed to have the capacity to make their own decisions (e.g. treatment, investigations) unless proven otherwise.

Assessment of Mental Capacity

The assessment consists of two stages:

1. Does the person have an impairment or a disturbance in the functioning of their brain? E.g. conditions associated with mental illness (e.g. dementia), head injury, or symptoms of drug or alcohol abuse.
2. Does this impairment or disturbance affect the person's ability to make a specific decision? Before applying this stage of the test, education and information must be first given to the patient to help them make the decision.

In making a decision, a person must be able to:

1. **Understand** the information that is relevant to the decision
2. **Retain** the information
3. **Apply** it as part of the decision-making process
4. **Communicate** their decision (verbally, in writing, or by gesturing e.g. nodding)

A failure in any of the above processes indicates that the person lacks capacity.

17.4.3 Lasting Power of Attorney (LPA)

A person can appoint an LPA to make decisions on his or her behalf in the event that he or she loses mental capacity. The LPA is expected to make decisions based on the person's best interest. If an LPA was not appointed prior to losing mental capacity, a committee of persons can be appointed by the court to make decisions based on the person's best interest.

17.4.4 Advance Medical Directive (AMD)

Singaporeans aged 21 or over are able to make advanced refusals of medical treatment in the event that they become terminally ill or lose mental capacity to make a decision. The Advance Medical Directive Act states that doctors must be explicit to patients with regards to what they are agreeing to (e.g. DNR – do not resuscitate) – both sides must be clear about the treatment (e.g. resuscitation) to be refused and the circumstances (e.g. terminal cancer or vegetative state) in which it will apply.

Key Learning Points

- [ ] 1. Kleptomania is an impulse control disorder in which there is a compulsion to steal, excitement during the theft, relief of tension after stealing, and guilt; items stolen are often useless to the patient.
- [ ] 2. Offences are less common in depression compared to mania and hypomania.
- [ ] 3. Two types of exhibitionism exist with different risks of reoffending: erect penis is associated with aggression, antisocial personality disorder and higher risk of reoffending, while flaccid penis is associated with inhibited temperament, guilt and lower risk of reoffending.
- [ ] 4. The Mental Disorder and Treatment Act (MDTA) can only be applied at the Institute of Mental Health in Singapore.
- [ ] 5. The MDTA Form 1 must be signed by a psychiatrist at IMH in order to admit a patient for 72 hours for necessary psychiatric treatment against the patient's wishes.
- [ ] 6. The MDTA Form 2 must be signed by a second psychiatrist at IMH who must reassess the patient, in order to further detain the patient for one month.
- [ ] 7. The MDTA Form 3 must be signed by two medical practitioners at IMH, one of whom must be a psychiatrist, in order to detain the patient for six months.

8. A person is deemed to have mental capacity if they are able to understand, retain and weigh information given to them, and communicate their decision.

9. An Advance Medical Directive (AMD) allows patients to refuse future life-sustaining treatment in the event that they lose the ability to make such decisions, whereas the Lasting Power of Attorney (LPA) allows patients to appoint a proxy decision maker for the future in the event that they lose the ability to make decisions.

10. Advance Care Planning (ACP), which is the process of planning for future health and personal care via discussions with all stakeholders, is not legally binding and is different from the AMD.

Revision MCQs and MEQs

MCQ

1. The man mentioned in the MEQ scenario arrived at IMH. The attending psychiatrist finds that he is of high risk and signs Form 1 for admission. Based on the Mental Disorder and Treatment Act in Singapore, what is the maximum duration that this patient will be kept for observation?

a. 24 hours
b. 48 hours
c. 72 hours
d. 96 hours
e. 120 hours

2. The man mentioned in the MEQ scenario has stayed in IMH for 2 weeks. The attending psychiatrist finds that he suffers from severe depression with poor insight. He signs Form 2 to prolong his stay. Based on the Mental Disorder and Treatment Act in Singapore, what is the maximum duration that this patient will be kept for treatment?

a. 1 month
b. 2 months
c. 3 months
d. 4 months
e. 5 months

3. A 50-year-old with chronic renal failure actively refuses dialysis. He is assessed to have mental capacity to make decisions. The renal consultant wants to apply a local health legislature to force him to have dialysis involuntarily. Which of the following legislation applies in this case to carry out the consultant's recommendation?

a. Advanced Medical Directive Act
b. Community Treatment Act
c. Mental Capacity Act
d. Mental Disorder and Treatment Act
e. No legislation is applicable in this case

Answer:
The Mental Disorder and Treatment Act does not apply to medical treatment.

4. A woman is referred by her lawyer to establish a diagnosis of kleptomania after being arrested for shoplifting. Which of the following does not suggest this diagnosis?

a. The stolen items are useless to her
b. This is the first episode of shoplifting in her whole life
c. She has committed shoplifting many times but was not caught
d. She consulted a psychiatrist for compulsive stealing
e. She threw the stolen items aways immediately

MEQ

You are a resident receiving emergency medicine training at a general hospital. One night, a 30-year-old man is brought in by his relatives because he wanted to jump down from his HDB flat after his girlfriend left him. He still wants to jump down if he has a chance. He has history of severe depressive disorder and he has stopped his prescribed antidepressant for 6 months. Your hospital does not have a psychiatric ward and the psychiatrist-on-call is not available.

1. Do you think this man needs to be admitted to a psychiatric ward? What is your rationale?

Answer:
Yes, he has to be admitted because he is at risk of harming himself (i.e. suicide) as a result of mental illness (i.e. depression)

2. If this man actively refuses psychiatric admission can you admit him to a psychiatric ward involuntarily in Singapore?

Answer:
Yes

3. Which is the only hospital where he can be admitted involuntarily in Singapore?

Answer:
Institute of Mental Health (IMH)

4. Which local mental health legislation states that this man can be admitted for psychiatric treatment against his will?

Answer:
Mental Disorder and Treatment Act (MDTA)

5. Can you sign Form 1 in a general hospital?

Answer:
No; Form 1 can only be signed at IMH

6. What is the procedure to transfer this man to IMH Emergency Department for further assessment?

Answer:
Perform necessary investigations and ensure that this man is medically fit for transfer
Call 6389 2000 (IMH) and discuss the transferral with the psychiatric registrar on call
Prepare a memo for transferal
Transfer the patient by ambulance (not by taxi or family car); the patient should be escorted by a nurse; if the patient is at medical risk, he or she has to be escorted by a medical doctor and nurse
Apply physical or chemical restraint (e.g. oral or intramuscular lorazepam) if necessary

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Chapter 18
Ethics in Psychiatry

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18.1 Ethical Principles

The four ethical principles commonly referred to in medicine are those of autonomy, non-maleficence, beneficence, and justice.

Table 18.1 *Four Ethical Principles*

Principle	Definition	Example
Autonomy	The obligation of a doctor to respect a patient's right to make his or her own choices in accordance with his or her beliefs and responsibilities	Obtaining informed consent prior to electroconvulsive therapy
Non-maleficence	The obligation of a doctor to do no harm	Insulin coma therapy in the past when psychotropic drugs were not available; now considered unethical as it may cause harm to patients
Beneficence	The fundamental commitment of a doctor to provide benefit to patients and to balance benefits against risks when making decisions	Transferral of a highly suicidal patient who refuses treatment to the Institute of Mental Health for compulsory treatment, because the patient will likely benefit from psychiatric treatment; at this moment, the patient refuses treatment due to lack of insight or understanding of mental illness; once recovered, the patient will be able to see the benefits of receiving compulsory treatment which can be potentially life-saving
Justice	Fair distribution of psychiatric service or resources	Reservation of a few empty beds in a psychiatric ward for patients admitted via the emergency department although some families of stable patients may wish to book beds for caregiver respite

Fiduciary duty refers to a doctor's duty to act in the patient's best interests. A doctor (i.e. the fiduciary) is in a legal contract with a patient (i.e. the beneficiary); a fiduciary duty exists when a patient places confidence in the doctor and relies upon that the doctor to exercise his or her expertise to act for the patient.

The **Bolam test** is a test of negligence and has four components:

1. There is a duty of care
2. The duty of care has been breached
3. There is a causal link between the breach of duty and harm
4. The harm is not too remote

The Bolam test arises from a historical case in which a patient, Mr. Bolam, received electroconvulsive therapy but was not given muscle relaxant and as a result suffered serious injuries.

Bolam v. Friern Hospital Management Committee
[1957] 1 WLR 582

An English tort law case which lays down the rule for assessing the appropriate standard of reasonable care in negligence cases involving skilled professionals: where the defendant has represented himself as having more than average skills and abilities, standards expected must be in accordance with a responsible body of opinion.

In this case, although Mr. Bolam sustained serious injuries from electroconvulsive therapy attributed to lack of muscle relaxant or manual restraint, it was the common practice of the profession at the time and ultimately the jury delivered a verdict in favour of the defendant hospital.

18.2 Confidentiality and Psychiatry

Ethical Issues Surrounding Confidentiality

Confidentiality refers to the process in which a patient entrusts his or her own doctor to keep information private. The patient can consent to or not to release confidential information to third parties. It is a right owned by the patient. It is an obligation of the psychiatrist to safeguard confidentiality.

Confidentiality can be viewed as a subset of privacy.

- **Breaching confidentiality in an emergency**
  - Common scenarios include patients about to attempt suicide, extremely drowsy after intoxication of substance and in critical condition after hanging.
  - Psychiatrists should act in the best interests of the patient to prevent potential serious harms to the health and safety of the patient.
  - Psychiatrists may need to obtain history from informants when patients cannot provide a history in the emergency situation.
- **Concept of privileges**
  - Patients have the privilege of controlling his or her clinical information.
- **Mandatory reporting**
  - Confidence is limited by legislation requiring mandatory reporting when protection of the community outweighs duty to an individual (e.g. child protection, firearms possession, registration boards, fitness to drive, certain infectious diseases such as HIV)

- **Incompetent patients / patients lacking capacity**
    - Psychiatrists should document efforts to obtain patient's consent and seek permission for actions related to release of clinical information in emergency situations. Psychiatrists need to document the reasons for failure to seek a consent from incompetent patients.
- **Breaching confidentiality and duty to inform/ protect patient and others**
    - Duty to community safety overrides confidentiality. Includes passing information to government officials if public safety is at risk (e.g. homicide, passing communicable diseases such as HIV to others, dangerous driving).
    - Psychiatrists should alert patients that information is to be released and discuss the basis for this decision.
    - Psychiatrists should try to re-develop therapeutic relationship afterwards.
- **Confidentiality issues in minors**
    - Provide adequate information to parents/guardians (e.g. in order to obtain consent for treatment)
    - Explain to parents at outset that child's psychotherapy is confidential and the disclosure of information conveyed by child will depend on clinical judgement.
    - Psychiatrist needs to work with custodial parents in case divorce takes place and obtain legal permit to disclose information to non-custodial parents if necessary.
    - For adolescents, maturity and independence of needs to be considered when deciding on how much information is to be released to the parents.
- **Confidentiality and precautions in various communication devices**
    - Do not release patient's information via telephone and facsimile.
    - Do not save patients'information in ancillary storage devices (e.g. storing discharge summaries on a thumb drive as it can be easily lost or stolen).
    - Release minimal information to other professionals after seeking patient's permission.
    - Reveal minimum necessary data in writing.
    - De-identification to maintain confidence in case write-ups.
- **Confidentiality and requests from the court**
    - Balance the duty to inform the court with the duty of care to the patient. If the testimony is damaging to the therapeutic relationship, the patient should be evaluated by an independent psychiatrist.
    - Inform patients prior to assessment of purpose of assessment and to whom information will be given.

18.3 Tarasoff Rule

The case of Tarasoff is an influential case in psychiatry to guide psychiatrists and psychologists worldwide on their duty to protect other people who are at risk by breach of confidentiality. This case occurred in US during the 1960s. Prosenjit Poddar was a university student who fell in love with a female student called Tatiana Tarasoff. Poddar told the university psychologist that he wanted to kill Tarasoff during a psychotherapy session. Without any precedent, the psychologist decided to maintain the confidentiality of Poddar's homicidal plan. Poddar eventually murdered Tarasoff. The Tarasoff family sued the psychologist from the University of California for not informing Tatiana Tarasoff and the police about Poddar's homicidal plan. In 1976, the California

Supreme Court concluded that the mental health professionals should have a duty to protect someone who may be harmed by patients. The Tarasoff rule has two components: Tarasoff I: duty to warn and Tarasoff II: duty to protect.

18.4 Capacity Assessment

It is important to offer an informed consent before a major procedure (e.g. ECT, surgery or dialysis). It is the duty of the doctor to provide accurate information about an illness, the proposed treatment, advantages and disadvantages of the proposed treatment and alternatives.

Patients suffering from major psychiatric illnesses such as dementia (any form: Alzheimer's disease, vascular dementia), delirium or acute confusional state, schizophrenia, delusional disorder, bipolar disorder with psychotic features and severe depressive disorder with psychotic features are at higher risk of having reduced capacity to give consent. The doctor must assess each patient carefully. Having the above illnesses does not mean that the patient is automatically disqualified from giving an informed consent for his or her own treatment. The doctor needs to ask the following questions to determine the patientâ€™s capacity to give consent:

1. What is the nature of your medical condition?
2. What is the purpose of the proposed treatment?
3. Can you tell me the benefits of the proposed treatment?
4. Can you tell me the risks/side effects of the proposed treatment?
5. What happens if you do not get the proposed treatment?
6. What are the alternatives to the proposed treatment?
7. Why do you want to discontinue the treatment? (if the patient wants to discontinue a chronic treatment e.g. dialysis)

A patient may refuse the proposed treatment and have the capacity to do so. It is not a negative answer but instead the rationale behind the answer which determines one's capacity. A schizophrenic patient believes that she has chronic renal failure and understands the risk of renal function deterioration if dialysis is discontinued. She still refuses dialysis on financial grounds as she cannot afford the treatment. This patient has the capacity to make decisions. On the other hand, another schizophrenic patient does not believe that she has renal failure and believes that the renal physician has a plot to kill her through dialysis. This patient does not have the capacity to give consent.

For testamentary capacity (i.e. the capacity to write a will), the doctor can modify the above questions and change the focus to the following: the purpose of a will, the procedure to write a will, the advantages of having a will, the disadvantages of not having a will, personal knowledge of his or her own assets and the details of beneficiaries.

18.5 Involuntary Treatment

Table 18.2 *Involuntary Treatment and Ethical Issues*

Clinical characteristics indicating involuntary treatment is appropriate	Ethical issues behind involuntary admission
1. Severe psychiatric illness (schizophrenia, severe depression, bipolar disorder), florid symptoms 2. Dangerousness to self or others 3. Failure of community treatment 4. Lack of capacity to give consent 5. Lack of insight and non-compliance 6. Previous side effects associated with medication 7. No less restrictive alternative 8. Admission previously shown to be helpful 9. Barriers to successful community treatment e.g. homelessness, no social support	1. Autonomy vs. paternalism or beneficence 2. Duty of care to family and wider society 3. Right of public to peace and freedom from harm 4. Non-maleficence 5. Competence 6. Capacity to give consent 7. Balance between rights of patients and others 8. Right of psychiatric patients to be treated despite inability to consent 9. Need for natural justice and independent review

After considering the clinical characteristics and ethical issues outlined in Table 18.2, involuntary admission under the Mental Disorder and Treatment Act may be invoked if warranted.

18.6 Boundary Violation

Based on medical ethics, a doctor cannot develop any sexual relationship with his or her patients. In psychiatry, the boundary between doctor and patient is well-defined and extends to non-sexual boundaries. A doctor should not make friends with his or her psychiatric patients. A doctor cannot meet a psychiatric patient outside the clinical setting for non-clinical purpose (e.g. having coffee together in a coffeeshop). Home visits with the community psychiatric team are an exception as they have a clinical purpose and the psychiatrist does not go there alone. A doctor should not have financial transactions with his or her psychiatric patients (e.g. lending money to patients or renting a flat from the patient).

The reason why a doctor needs to maintain clear boundaries with his or her psychiatric patients is because of the fact that psychiatric patients represent a vulnerable group, and psychiatric treatment (e.g. psychotherapy) is an intensive programme which triggers emotions in both the patient and the psychotherapist or psychiatrist. The therapeutic relationship will become complicated if other non- therapeutic factors are involved.

Key Learning Points

1. Four necessary ethical principles governing medical practice are those of autonomy, non-maleficence, beneficence and justice.
2. Autonomy is the obligation of a doctor to respect a patient's right to make his or her own choices, even if those may go against medical advice.
3. Non-maleficence is the principle of first doing no harm.
4. Beneficence is the fundamental commitment of a medical practitioner to act in the best interests of a patient to provide benefit, and to balance benefits and risks in decision-making.
5. Justice is the fair distribution and allocation of medical resources.
6. The Bolam test states that a medical practitioner must act in accordance with standards held by a responsible body of medical opinion, as he or she is understood to have more than average skills and abilities with regard to medical knowledge and therefore acts on behalf of the patient.
7. Patient confidentiality should be maintained except in extenuating circumstances, which include emergencies and necessary legislation.
8. The Tarasoff rule states that mental health professionals have a duty to protect people who may be in danger of harm by patients; there is both a duty to warn as well as a duty to protect.
9. A patient has capacity if they are able to understand, retain and weigh information given to them, and communicate their decision reliably.
10. Psychiatrists should maintain clear boundaries with patients such that their interaction is limited only to clinical treatment.

Revision MCQs and MEQs

MCQ

1. An individual with bipolar affective disorder and long-term alcohol dependence develops haematemesis. He is advised by the gastroenterologist to go for an oesophagogastroduodenoscopy (OGD) to identify the bleeding site. On assessment, he appears to have the capacity to make that decision and he is not manic. The psychiatrist advises acceding to his wish not to have the OGD. This case illustrates which of the following?

a. Respect for autonomy
b. Beneficence
c. Non-maleficence
d. Paternalism
e. Utilitarianism

Answer:
Although this man has a history of bipolar disorder, he has the capacity to make decisions. Hence, his autonomy should be respected.

2. Which of the following statements about capacity is false based on the scenario in Q1?

a. Autonomy
b. Capacity
c. Confidentiality
d. Consent
e. Equality

3. A patient has his or her own right to decide what happens to his or her own personal information. This concept is best known as:

a. Capacity
b. Confidentiality
c. Fiduciary
d. Privacy
e. Privilege

Answer:
Privilege refers to a patient's right to decide what happens to their personal information. Personal or clinical information belongs to the patient and not the hospital or doctors.

MEQ

You are a resident receiving family medicine training in a polyclinic. A 25-year-old female patient has been seeing you for management of depression. She has been cutting her wrist regularly. She seems to suffer from borderline personality disorder. Recently, she has broken up with her boyfriend. She feels very lonely and empty. She feels abandoned. She does not like to take antidepressants. She needs a professional who can listen to her and keep her occupied.

1. You have been seeing her a few times. During one consultation, she invites you to go for a coffee in Holland Village. She says that she will be very upset if you reject her offer and she will hate you forever. Will you go with her and what is your rationale?

Answer:
No; it is considered a boundary violation

2. She also asks for your handphone number. She needs your personal handphone number because she wants to call you if she needs urgent help. She promises that she will only call you if she is in an emergency and she will not call you for no reason. Will you give her your number and what is your rationale?

Answer:
No; the patient is testing whether you concern her in an inappropriate way

The patient may call you outside of working hours and expect you to go and save her; it is beyond a doctor's capacity to offer such services and it leads to uncertainty (e.g. the patient may say she took an overdose at home and that you need to go to her flat; the situation can become uncontrollable once you enter her flat)

3. You find that this patient is testing the boundary between the doctor-patient relationship. You are very stressed. Name three actions to prevent further boundary violation.

Answer:
Establish a treatment contract with the patient which states clearly what is allowed and not allowed between a doctor and his/her patient
Seek supervision from a senior family doctor or psychiatrist
Refer the patient to see a psychologist for psychotherapy and manage this patient in a team with other professionals such as social workers
Refer the patient to see a psychiatrist

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Chapter 19
Community Psychiatry

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19.1 Community Mental Health Team (CMHT)

The CMHT is multidisciplinary in nature, comprising mental health workers such as psychologists, social workers, psychiatrists, case managers, rehabilitation therapists, occupational therapists and nurses. Each team is unique in that there is no set framework for which of these professionals and how many can band together to form a community mental health team. The few general principles governing the formation of these teams is that each of the team players should have a broad understanding of mental health issues and treatment and they should be able to employ their professional skills within the dynamics of a team, which may sometimes result in blurring of the distinction between roles and sharing of their respective skills e.g. nurses and occupational therapists may be able to do basic supportive psychotherapy. Not all of these teams have a trained psychiatrist at its helm, due to the lack of resources, so initial assessment may be undertaken by a trained member of the team. However, the general consensus is as much as possible for each patient to have an assessment done by a trained psychiatrist. In addition, the principle of collective responsibility applies in CMHT as responsibilities are shared among team members.

The CMHT can be formed based on the characteristics of service users, e.g. old people with dementia, young people with substance misuse, and people with severe mental illnesses. The main roles of the CMHT are to provide thorough initial assessment, home-based care for people who fail to attend outpatient appointments, with systematic reviews, outreach to people with mental illnesses and their families in the community and continued outpatient assessments to review their progress. In order for community care to be successful, adequate inpatient facilities are necessary for treatment of acute illnesses and crisis interventions.

19.2 Local Mental Health Resources

The following section introduce agencies that offer support to psychiatric patients in the community.

19.2.1 For Children and Adolescents

Community Health Assessment Team (CHAT)

The CHAT works closely with post-secondary educational institutions i.e. polytechnics, universities and vocational institutions, social agencies and voluntary welfare groups to promote awareness of mental wellness among youths, help them to be aware of mental health services available to them, and encourage them to seek help early if they have mental or emotional health issues. It provides a one-stop resource hub in a non-traditional setting to help youths in distress as well as destigmatise mental illness.

Source of information and website: http://www.youthinmind.sg

Response Early Intervention and Assessment in Community Mental Health (REACH)

REACH is a mobile multidisciplinary mental health team that works closely with school clusters to:

1. Improve mental health of children and adolescents in schools
2. Provide early interventions, support and training to school counsellors on mental health disorders
3. Develop a mental health network for children and adolescents in the community involving:

- General practitioners (family doctors and community paediatricians)
- Full-time School Counsellors (FTFC), and/or
- Voluntary Welfare Organisations and Family Services Centre

Source of information and website: http://reachforstudents.com

19.2.2 For Adults

Adult Community Mental Health Team Service

The Adult Community Mental Health Team (CMHT) is funded by Ministry of Health under the National Mental Health Blueprint. The primary aim of the CMHT service is to maintain adult persons with mental illness (18 to 65 years old) in the community for as long as possible and reduce hospital readmissions and length of stay. The CMHT is a multidisciplinary team (consisting of psychiatrists, psychologists, occupational therapists, medical social workers, community nurses and counsellors) and provides the following services:

1. **Assertive Care Management**
   (Psycho-social rehabilitation of patients who are high users of inpatient services)
   This team provides community-based treatment to IMH patients with severe and persistent psychiatric illnesses (such as schizophrenia, delusional disorder and manic-depressive psychosis), so that they may continue to live in the community while working towards recovery.
2. **Mobile Crisis Team**
   IMH patients and their caregivers in crisis situations can call a Mobile Crisis hotline for help. The hotline puts them through to a qualified counsellor for immediate assistance and advice. In critical situations, they will be put in touch with the Mobile Crisis Team who will accompany the patient for admission to IMH if necessary.
3. **Community Psychiatric Nursing Service**
   A team of Community Psychiatric Nurses helps to provide continuity of care for discharged patients in their homes and counsel patients on compliance with medication. The team also provides psychological support to caregivers. During home visits, the Community Psychiatric Nurse assesses the mental state of the patient and observes the therapeutic effects and any side effects of medications. Feedback gathered from the patient is shared with caregivers to help them with their care management. This service caters to patients of all age groups.

Source of information and website: http://www.imh.com.sg/clinical/page.aspx?id=272

Community Rehabilitation Support and Service (CRSS)

The Community Rehabilitation Support & Service (CRSS) programme for individuals with psychiatric disabilities started in January 2006. A community project of the Singapore Anglican Community Services (SACS) and supported by the Ministry of Health (MOH) and the National Council of Social Service (NCSS), the programme involves a mobile team of professionals providing essential services to clients at their place of residence in the community. The objective of the CRSS programme is to enable people with psychiatric disabilities to live safely in the community, and that they are meaningfully engaged in work, studies or other meaningful activities of their choice.

The services provided by the CRSS mobile-rehabilitative team include:

1. Mental Wellness
2. Services Coordination
3. ADL Training
4. Caregivers' Training
5. Group Work
6. Treatment Therapy
7. Community Integration

Source of information and website: http://www.sacs.org.sg/crss.htm

Residential Mental Health Centres

Some psychiatric patients discharged from psychiatric ward may need to stay in a care centre for 1 to 6 months to prepare for integration to society.

Simei Care Centre

Simei Care Centre (SCC) is a community based, purpose-built rehabilitation centre operated by the Singapore Anglican Community Services, a voluntary welfare organisation. It caters to the various needs of persons with psychiatric disabilities in Singapore. Completed in December 2004, it has a capacity of 156 residential members and another 90 day care members. SCC hopes to help each of the members rediscover skills and resources needed to successfully live, learn and work in the community with the least amount of professional assistance.

Source of information and website: http://www.sacs.org.sg/scc.htm

Hougang Care Centre

Hougang Care Centre (HCC) is based on the Clubhouse model of psycho-social rehabilitation. This model focuses on the strengths of persons with mental illness. It holds that everyone can be productive in his or her own way, and that participating in meaningful work has a regenerative

effect. It offers opportunities for members to engage in meaningful activities that will help to develop life, work, and social skills through their involvement in the running of the Clubhouse. Clients are called 'members' to emphasise a sense of inclusion and mutual acceptance, and are expected to work side-by-side with staff in their own recovery process.

Source of information and website: http://www.sacs.org.sg/hcc.htm

Singapore Association for Mental Health

The Singapore Association for Mental Health is a voluntary welfare organisation (non-governmental and non-profit), which seeks to promote the social and mental well-being of the people of Singapore. More specifically, the organisation aims to promote mental health, prevent mental illness, improve the care and rehabilitation of the mentally ill and the emotionally disturbed, and to reduce the misconception and social stigma that surround mental illness. It provides counselling services, a daycare centre and a support group for eating disorder.

Source of information and website: http://www.samhealth.org.sg/index.php

19.2.3 For Elderly

Aged Psychiatry Community Assessment and Treatment Service (APCATS) - IMH

Aged Psychiatry Community Assessment and Treatment Service (APCATS) is a community-oriented psycho- geriatric outreach service. It has two programmes: Clinical Service (CS) and Regional Eldercare Agencies Partnership (REAP).

APCATS Clinical Service (CS) provides assessment and treatment for homebound elderly patients. It also provides education and support for patients and caregivers.

APCATS Regional Eldercare Agencies Partnership (REAP) is a newly launched initiative in 2008 where APCATS partners community eldercare agencies and family physicians for training, consultation and support. The team also assists in the coordination of services to improve the continuity of care for the elderly with mental illnesses.

Source of information and website: http://www.imh.com.sg/clinical/page.aspx?id=273

G-Race Community Programme (GCP) - NUH

GCP is a community-oriented programme developed to provide support for older persons with mental health challenges so that they can continue living in their own homes. The programme:

1. Provides mental health services for the treatment of psychogeriatric disorders in elderly patients from NUH by helping them transit back to their homes seamlessly
2. Improves the quality of life of elderly patients and alleviates the stress of caregivers through support and education

Source of information and website: http://www.nuh.com.sg/umc/about-us/about-us/department-of- psychological-medicine/clinical-services/programmes/grace-community-programme-gcp.html

19.3 Psychiatric Rehabilitation

Psychiatric disorders cause impairment (interference with function of a system), disability (interference with function of the person as a whole) and handicap (social disadvantages resulting from impairment and disability). Psychiatric rehabilitation aims to restore and improve function and maintain function at an optimal level, hence reducing impairment, disability and handicap. Common rehabilitation strategies include cognitive rehabilitation, training in independent living, use of community facilities, enhancing social interaction and psychoeducation. There are many examples to prove that the severity of psychiatric symptoms may not always correlate to the success of the rehabilitation. For example, a person suffering from schizophrenia with severe paranoid delusions may still be able to hold a job and maintain independence in his activities of daily living. Conversely, a person with schizophrenia whose symptoms are stable on medication may decompensate in terms of social functioning in light of psychosocial neglect or stress.

Employment for Psychiatric Patients

Temasek Cares Employment Support Services is a programme of Singapore Anglican Community Services. An evidence based support employment programme, it was established to help persons with mental illness to find competitive jobs.

Source of information and website: http://www.sacs.org.sg/employment.htm

19.4 Stigma in Psychiatry

Stigma is a prejudice (negative attitude) based on stereotypes (the linkage of differences to undesirable characteristics) usually leading to discrimination. Discrimination is a form of behaviour ranging from simple avoidance of people with mental illness to social discrimination (e.g. people with mental illness being rejected when they apply for insurance). Hence stigma is caused by lack of knowledge (ignorance), problems with attitudes (prejudice) and problems with behaviour (discrimination).

Historically, stigma in psychiatry has been divided into two types by Corrigan and Watson: public and self. The former refers to the attitude of the general public towards the mentally ill. The latter is the prejudice that the mentally ill internalise due the reaction of the public towards them and the disability they suffer from their mental illness. Stigma also makes people with mental illness feel angry, emotionally hurt, depressed and disappointed. Factors contributing to stigma include abnormal behaviour associated with schizophrenia or mania, iatrogenic stigma such as side effects of psychotropic medications (e.g. tardive dyskinesia), association by the media of some forms of psychiatric illness with criminal behaviour, low financial priority given to the mental health services and social consequences of disclosing mental illness. It is important

to note knowing someone with a mental illness does not necessarily reduce prejudice or the stigma amongst the general population. However people who have had contact with patients who have recovered or improved with treatment are shown to have less discriminatory attitudes towards the mentally ill.

Certain classes of mental disorders are associated with higher rates of blame and prejudice such as substance misuse as others often think that the problems are self-inflicted. Between 1996-2003, the Royal College of Psychiatrists launched an anti-stigma campaign which focused on the following disorders: anxiety disorders, depressive disorder, dementia, schizophrenia, eating disorders and substance misuse. The audience groups of this programme were doctors, young people, employers, media and the general public in the UK. The programme led to significant changes in public opinion regarding dangerousness associated with mental illnesses and people became keener to talk about mental illness. The stigma in mental illnesses can be seen in many aspects of the patientâ€™s lives, from employment, to housing and even amongst their own family members.

Key Learning Points

1. The Community Mental Health Team should be multidisplinary and roles should be fluid such that management of the patient is optimal regardless of the vocation of the service provider.
2. The roles of the Community Mental Health Team are to provide thorough initial assessment, home-based care for patients unable to comply with outpatient treatment, systematic reviews, and outreach efforts.
3. As far as possible, every patient should be assessed by a trained psychiatrist.
4. Local mental health resources for children and adolescents are primarily administered via schools and include REACH for primary and secondary students and CHAT for post-secondary students.
5. Local mental health resources for adults include the government-funded Adult CMHT, as well as non- governmental run programmes by the Singapore Anglican Community Services (CRSS, Simei and Hougang Care Centres) and the Singapore Association of Mental Health.
6. Local mental health resources for the elderly include APCATS run by IMH and GCP run by NUH.
7. Rehabilitation is an important component of longitudinal treatment aiming to restore and improve function, as well as maintain function at an optimal level.

- [ ] 8. The severity of psychiatric symptoms may not correlate with the success of rehabilitation.
- [ ] 9. Stigma is a prejudice based on stereotypes which causes discrimination, and can be stigma by the general public toward the mentally ill, or stigma by the mentally ill against themselves due to public reaction.
- [ ] 10. Mental health resources in the community should be leveraged upon in order to provide patients with holistic care, and ease the burden on inpatient resources.

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Chapter 20
OSCE Grids

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20.1 Psychopathology

A 20-year-old university student was brought in by the counsellor to the emergency department. He was found sitting in the lift of the residential hall for an entire day refusing to attend classes. He claims that he hears voices talking to him.

Task: assess this patient's hallucinations

Table 20.1 *OSCE Grid: Approach to Hallucinations*

A) Second-person auditory hallucination in depression and mania				
A1) Introduction	A2) Open question	A3) Nature of voices	A4) Command hallucinations	A5) Mood congruence
When people are under stress, they may have unusual experiences. I understand from your counsellor that you have been hearing voices.	Can you tell me more about the voices? Can you give me an example?	How do these voices address you? Do they speak directly to you?	Do the voices give you orders or command you to do things? Do you obey these voices?	Does your mood influence the content of the voices? For example, when you are sad, do the voices say sad things?
B) Third-person auditory hallucination in schizophrenia				
B1) Number of voices	B2) Content of hallucination	B3) Running commentary	B4) Audible thoughts	B5) Echo de la pense
Do you hear more than one voice? How many voices are there in total?	What do the voices say?	Do the voices comment on what you are doing or thinking?	Do the voices say your thoughts out loud?	Do the voices echo your thoughts after a few seconds?
C) Confirm nature of hallucinations				
C1) Space	C2) Space	C3) Vividness	C4) Voluntary / Involuntary	C5) Hypnogogic / Hypnopompic
Where do these voices come from? Do they come from external space?	Do the voices come from inside or outside your head?	Do you feel that the voices are real? Are the voices as clear as my voice?	Can you stop the voices from talking? Can you distract yourself from the voices?	When do these voices occur? Were you falling asleep or waking up when the voices spoke?
D) Hallucinations in other modalities and insight				

D1) Visual hallucinations	D2) Olfactory hallucinations	D3) Gustatory hallucinations	D4) Tactile / haptic hallucinations	D5) Assess insight
Have you seen things that other people cannot see? What kind of things do you see? Can you give me an example?	Is there anything different or strange with your sense of smell? Can you tell me more about it?	Have you noticed that food or drink seem to have a different or strange taste recently?	Have you had any strange feelings in or on your body? Do you feel as if people are touching you, or that insects are crawling on your body, even when you do not see any?	What do you think is causing these experiences? Do you think you might need help to stop these strange experiences?
E) Course / Comorbidity / Risk assessment				
E1) Course of hallucinations	E2) Impact of hallucinations	E3) Other first rank symptoms	E4) Substance misuse	E5) Risk assessment
How long have you been experiencing these voices for?	How do these experiences affect your life? How is your mood? Has your mood been affected by these voices?	Do you worry that these voices are part of a plot to harm or control you? Do you feel as if your thoughts are being interfered with? (e.g. thoughts are being inserted, withdrawn or broadcasted)	Do you use recreational drugs or alcohol?	Sometimes when people are stressed they might think about harming themselves or ending their lives. Do you have such thoughts?

20.2 Schizophrenia and Psychosis

A 22-year-old university student is brought by his counsellor to the Accident and Emergency Department. He was seen by the psychiatrist at the University clinic and diagnosed to suffer from schizophrenia. You are the resident working in the Accident and Emergency Department.

Task: Take history to elicit first rank symptoms and other related symptoms to establish the diagnosis of schizophrenia.

Table 20.2 *OSCE Grid: Schizophrenia*

A) Assess hallucinations		
A1) Introduction	A2) Auditory hallucinations	A3) Other hallucinations
I gather that you have been through a lot of stress recently; when under stress sometimes people have certain unusual experiences. Have you had such experiences?	Do you hear voices when no one else is around? Do the voices speak directly to you (2nd person) or do they speak among themselves (3rd person)? What sort of things do the voices say? **E**choing: Do the voices repeat your thoughts? **A**rguing: Do the voices ever argue among themselves? **R**unning commentary: Do the voices describe or comment upon what you are doing or thinking? Do the voices tell you to do things?	Visual hallucinations: Have you ever had experiences during which you saw things that others could not see? Tactile hallucinations: Do you feel that there are strange sensations within you, as if something is crawling within your body? Olfactory/gustatory hallucinations: Have you ever had experiences during which you could smell or taste strange things that others did not experience?
B) Assess thought interferences		
B1) Thought insertion	B2) Thought withdrawal	B3) Thought broadcasting
Do you feel as if someone or something can put their thoughts into your mind?	Do you ever feel as if someone or something is taking your thoughts away from you?	Do other people know what you think in your mind?

		Do you feel that your thoughts are broadcasted to other people?
C) Delusions, insight, mood, substance misuse		
C1) Delusions of control or passivity	C2) Other delusions	C3) Insight and mood
Has there been any difficulty with feelings, actions or bodily sensations? Is there someone or something trying to control you in terms of your impulses (will), feelings (affect) or actions (volition)?	Persecution: Is there someone or something trying to harm you or make your life miserable? Reference: Do you think that someone is watching, following or spying on you? Do you think that other people are referring to you, for example in the newspapers or on television? Grandeur: Do you have any special powers or abilities that others do not have? Guilt: Do you feel like you deserve punishments for mistakes you have made in the past? What is the nature of the mistakes and punishment you deserve?	What do you think is the cause of these experiences? Could you be suffering from an illness in your mind?? Do you think treatment would help to reduce these experiences? What is your mood like? Do you feel sad? When you feel sad, do you have thoughts of harming yourself or ending your life? When some people are stressed they might use recreational drugs. Do you have such experiences?
D) Assess negative symptoms and functional disturbance		
D1) Apathy	D2) Anhedonia	D3) Social and academic deterioration
Do you encounter any difficulty in looking after yourself? How often do you tend to take a shower or a bath? Has anyone complained about the state of your room? Is it difficult to stay tidy or to keep your room the way you would like it?	Have you spent any time with friends lately? Do you find it difficult to feel emotionally close to others? What were your main hobbies or interests in the past? Do you still enjoy doing these things?	How has your academic performance been recently? Are you able to concentrate on studies? Do you feel that your academic performance is not as good as it used to be? How long has it been?

20.3 Depression

You are a resident working in the AED. A 30-year-old teacher is referred from the polyclinic for management of depression. He cannot cope with the workload and he also has interpersonal problems with the school principal.

Task: Take a history to establish the diagnosis of depressive disorder. Note that forgetting to make a brief assessment of suicidal risk in a depressed patient may result in a failure.

Table 20.3 *OSCE Grid: Depressive Disorder*

A) Assess core symptoms of depression		
A1) Mood	A2) Energy	A3) Interest
During the past month, how often have you been bothered by feeling down or depressed? Can you rate your current mood on a scale of 1 to 10, where 1 is very depressed and 10 is very happy? Which part of the day is worst? (elicit diurnal variation of mood)	How have your energy levels been recently? Do you feel tired most of the time?	Can you tell me more about your interests and hobbies before the current depressive episode? During the past month, how often have you been bothered by having little interest or pleasure in doing things?
B) Assess biological symptoms of depression		
B1) Sleep	B2) Appetite and weight	B3) Sexual function
How has your sleep been lately? Can you fall asleep? If not, how long does it take? How many times do you wake up in the middle of the night? (exclude urination) At what time do you wake up in the morning? (look for early morning wakening) If you	Has your appetite changed recently? Do you tend to eat less or more? Has your weight changed recently? Have you lost or gained weight? How many kilogrammes were involved?	I hope you do not mind if I ask you some sensitive questions as depression may affect sexual function. Have there been any changes in your sexual function recently? Can you tell me more about the nature of the sexual dysfunction? When did the sexual dysfunction start? (coincidence with onset of depression)

wake up, can you fall asleep again?		
C) Assess cognitive symptoms		
C1) Cognitive impairment	C2) Feelings toward self and future	C3) Common cognitive biases
What has your concentration been like recently? Can you concentrate when you teach? How has your memory been?	How do you see yourself? Do you see yourself as a failure? How do you see your future? Do you feel hopeless?	Can you tell me more about your negative thoughts? (look for selective abstraction, overgeneralisation or catastrophic thinking; gently challenge patient's beliefs or provide an alternative explanation to seek their view)
D) Assess risk, psychotic features and insight		
D1) Suicide risk	D2) Psychotic features	D3) Insight
Have you felt that life is not worth living? Would you do anything to harm or hurt yourself? Have you done anything of that sort? Have you made any plans? Have you told anyone about it?	When people are under stress, they sometimes complain of hearing voices or believing that other people are doing something to harm them. Do you have such experiences?	What is your view of the current problem? Do you think that you may suffer from a depressive illness?
E) Explore aetiology and background		
E1) Family history	E2) Past psychiatric and medical history	E3) Support system
Do you have any biologically related relatives who suffer from depression? Do you have any biologically related relative who attempted or committed suicide in the past?	Did you seek help from a psychiatrist or GP in the past for your low mood? Did you receive any treatment from a psychiatrist? What medications and side effects were there? How anxious do you feel? (comorbidity) Do you drink alcohol on a daily basis to cope with stress or to help you sleep?	Is there anyone who is providing emotional support to you at this moment? Is there someone in the school whom you can talk to? What is your career plan at this moment? Have you sought help from the Ministry of Education?

	Do you suffer from any chronic medical illness?	

20.4 Electroconvulsive Therapy

You are a resident and you have admitted an elderly woman suffering from severe depressive episode with delusion of guilt. She does not respond to antidepressants and antipsychotics. Your consultant has recommended ECT. Her daughter is very concerned and wants to speak to you.

Task: talk to her daughter and address her concerns.

Approach

- Express empathy (e.g. I can imagine the idea of ECT sounds very scary to you, and it's clear you want the best care for your mother. I would like to discuss what ECT involves, because it is very different from what is portrayed in the media. This way, you can make an informed decision.)

Core information about ECT

- ECT involves inducing a fit while the patient is under general anaesthesia.
- ECT is the most effective treatment for depression, particularly for those who have high risk of suicide, very poor appetite and poor response to oral medication; it is sometimes indicated in pregnant women because there are no side effects to the foetus.
- It is very safe and has been with us for the past 50 years.

Will my mother be awake during ECT?

- No, your mother will be given anaesthesia to put her into sleep and a medication that paralyses muscles, so the risk of breaking bones is rare. The patient is given oxygen before the procedure. The patient's blood pressure, heart rhythm, and medical status is monitored throughout the procedure and when she comes out of the anaesthesia.

How often will my mother get ECT and for how long?

- 3 times per week, Mon, Wed, Fri and for 6 sessions (2 weeks); some patients may need 9 to 12 sessions.

How do you know if the ECT is successful?

- We will monitor the duration of her fit. It has to be at least 25 seconds in duration. We will monitor her muscle movement through electrical recordings (i.e. EEG). If response is poor, we will increase the energy level by 5% each time.

How do you decide on the dose of ECT?

- By age-based dosing: energy level = patient's age divided by 2.

What tests do you include in your pre-ECT workup?

- Physical exam, FBC, RFT, ECG, CXR. Assess patient's dentition, especially for elderly or those who have inadequate dental care.

What is the preparation for the night before ET?

- Fasting is required after 12:00 midnight and she should avoid sleeping pills if possible.

What is the risk involved?

- ECT itself is safe. Risk is associated with anaesthesia.

How does ECT affect memory?

- Anterograde and retrograde amnesia can occur, though in the majority of patients this does not last more than a few months following the last ECT treatment.
- Amnesia of events immediately preceding and following ECT treatments may be permanent (reassure the relative that these memories are not important).
- Anterograde amnesia is always transient. In a very small number of patients, the symptoms of retrograde amnesia may be permanent.

What are other common side effects?

- Memory problems, confusion, nausea, muscle aches and headache are the most common in the morning after ECT.

What are the risk factors associated with confusion after ECT?

- Old age, prior cognitive impairment, lithium, anticholinergic and bilateral placement.

How would you reduce confusion after ECT?

- Unilateral treatment on the right side of the brain, lowering electrical energy, increasing the time between ECT treatments and holding off lithium or sleeping pills.

What is the mortality rate associated with ECT?

- The mortality rate is very low, and is the same as that for general anaesthesia, which is 1 in every 20,000 people.

20.5 Bipolar Disorder

You have been asked to see a 28-year-old unemployed man who has not slept for five days and claims to have full energy. He claims to be the President of Singapore and his plan is to unite all world leaders to fight poverty in developing countries.

Task: Take a history to establish the diagnosis of bipolar disorder.

Table 20.4 *OSCE Grid: Bipolar Disorder*

A) Assess mood symptoms		
A1) Mood	A2) Irritability	A3) Grandiosity
How is your mood today? Can you rate your current mood on a scale of 1 to 10, where 1 is very depressed and 10 is very happy? How long have you been feeling high? Do you have mood swings/ How about feeling low? Roughly how many low or high episodes do you experience in a year?	How have you been getting on with people recently? Do you feel that they annoy you? Do you lose your temper easily? What would you do if people irritate you?	How would you compare yourself to other people? Are you special? Please tell me more. Could your special ability be a misunderstanding? Can you provide more evidence about it? Do you feel that you are superior to other people?
B) Assess biological symptoms		
B1) Sleep and energy	B2) Appetite and weight	B3) Sexual function
How has your sleep been lately? What is your energy level like? Do you feel that you need much less sleep but you are still full of energy?	How has your appetite been lately? Have you lost weight recently?	I am going to ask you some sensitive questions. How has your interest in sex been lately? Have you had sex with any new partners? Do you take any precautions to protect yourself (e.g. condom)?

		If the patient is female, ask about the last menstrual period and possibility of pregnancy
C) Assess cognitive and psychotic symptoms		
C1) Interest and plans	C2) Thoughts and speech	C3) Psychotic features
Could you tell me about your interests? Have you developed any new interests lately? Do you have any new plans or commitments at this moment? (e.g. starting a new business or investment)	Has there been any change in your thinking lately? Have you noticed that your thoughts speed up? Do you find your thoughts racing in your mind? Do your family members say that the topics in our speech change faster than they can follow?	When people are under stress, they sometimes have unusual experiences such as hearing a voice talking to them when no one is around. Do you encounter such experiences? What did the voices say? How many voices spoke at one time? Do you believe that you have special powers or status which other people do not have? Can you tell me about this special power or status? Are you very certain that you have such ability or status?
D) Assess risk and insight		
D1) Risk	D2) Comorbidities	D3) Insight
Have you been buying a lot of things? Have you incurred a lot of debts (e.g. credit card bills)? Do you drive? Have you been involved in speeding or traffic offences? Have you been in trouble with the police lately? (e.g. due to violence) When you feel sad, do you have thoughts of harming yourself?	Do you take recreational drugs on a regular basis to get high? What about alcohol? Do you drink on a regular basis?	Is there any reason why you encounter these experiences? Do you think there might be an illness in your mind which affects your mood? Do you think you might need treatment?

20.6 Lithium

A patient was admitted to the psychiatric ward after a manic episode. The consultant psychiatrist has advised him to consider taking lithium as a maintenance treatment. The patient is very concerned about bipolar disorder and lithium after reading information from the internet.

Task: address this patient's concerns about lithium treatment.

Why do you want to prescribe lithium?

- Lithium is used to stabilise your mood. After my assessment, it seem that your mood is elevated and you suffer from a condition called mania in the context of bipolar disorder.

What is mania?

- Feeling high, irritable, full of energy, having a very good appetite, no need for sleep, high sexual drive, racing thoughts, grandiose ideas, overspending, poor judgement, dangerous behaviour and unusual experiences such as hearing voices.

Why do I sometimes feel depressed?

- Periods of depression occur in bipolar disorder. Your mood will go up and down.

What exactly is lithium?

- It is a type of salt and can be found naturally.

How long have psychiatrists been using lithium?

- 50 years already.

What is the usual dose of lithium?

- Starting dose 400mg a day, increasing slowly to 800mg to 1200mg per day.

How do you decide the right dose for me?

- Based on serum levels 0.4 – 0.8 mmol/L as well as clinical response.

What time of the day should I take lithium?

- Usually at night. Modern lithium has a long release version and can last for an entire day.

What should I do if I miss a dose?

- If you forget a dose, take it as soon as you remember.

Can I take lithium now?

- No, we need to do some blood tests for you.

Why do you need those blood tests?

- We need to do blood tests to make sure it is safe for you to take lithium. Your kidneys and thyroid have to be in good condition.

Do I only need to have those blood tests once?

- Lithium may affect the function of your kidneys and thyroid; we have to check every six months.

Lithium sounds scary. How do you know it is safe for me to take?

- It is usually safe if your kidney and thyroid are in good condition. Extra care is needed if you take painkillers or medication containing sodium.

How do I know if lithium works for me?

- Your highs and lows should become less extreme. It will reduce thoughts of harming oneself. It may take weeks or months to appreciate the beneficial effects of lithium.

Can I mix alcohol with lithium?

- No, it will lead to drowsiness if lithium is combined with alcohol, and therefore an increase in fall risk and accidents. Avoid alcohol in the first two months; if you need to drink socially, try a small amount & see how you feel. Don't drink and take lithium when you drive.

When I feel better can I stop taking lithium?

- You should not stop suddenly, and should consult your doctor. Lithium is usually a long-term treatment.

Is lithium addictive?

- No, it is not because you do not need to take more and more lithium to achieve the same effect.

Do I need to know anything else as I stay in Singapore?

- Drink enough water in hot weather. Lack of water in body may cause more side effects.

My younger brother likes to steal my medicine. What would happen to him if he swallows a large amount of lithium?

- Lithium is toxic if a person takes an overdose. A person will first present with loose stools/vomiting, then very shaky hands, unsteady walking, confusion and may die. You need to send the person to the Emergency Department immediately.

What are other alternatives besides lithium?

- There are other medications which can stabilise patient's mood which are anti-fit/epilepsy medication.

20.7 Suicide Risk Assessment

A 24-year-old woman took an overdose of 20 tablets of paracetamol. She is brought in by her partner to the Accident and Emergency Department where you are the resident on duty.

Task: Assess her suicide risk.

Table 20.5 *OSCE Grid: Suicide Risk Assessment*

A) Assess suicide plan and intent		
A1) Introduction	A2) Plan	A3) Intent
I am Dr. XXX. I can imagine that you have gone through some difficult experiences. Can you tell me more about it? Can you tell me why you took the 20 tablets of paracetamol tonight? Was there any life event leading to this suicide attempt?	Was the overdose planned? How long have you thought about it? How did you obtain the paracetamol tablets? What did you think would happen when you took the paracetamol?	Did you intend to take your life via the overdose?
B) Assess circumstances of suicide attempt		

B1) Location of attempt	B2) Severity of overdose and other self-harm	B3) Suicide note or goodbye message
Where did you take the medication? Was anyone else there? Were you likely to be found? Did you lock the door or take any precautions to avoid discovery?	Besides paracetamol did you take any other medication? Did you mix the paracetamol with alcohol? Did you harm yourself by other means (e.g. cutting yourself)?	Did you leave a suicide note? Did you send a message via text or email to say goodbye to your partner or family members?
Assess events after suicide attempt		
C1) Discovery	C2) Physical complications	C3) Current suicide risk
How did you come to be in the A&E? Were you discovered by other people? How did they discover you?	Did the overdose lead to any discomfort (e.g. severe vomiting)? Did you have any period of loss of consciousness? How do you feel about your suicide attempt now? Are you regretful of having attempted suicide? Would you do it again?	How do you feel about your suicide attempt now? Are you regretful of having attempted suicide? Would you do it again?
Assess other risk factors and protective factors		
D1) Past history of suicide	D2) Past psychiatric/medical history	D3) Protective factors
Have you attempted suicide previously? How many times? What are the usual ways you have tried to commit suicide? Have you ever tried other methods such as hanging, stabbing yourself, jumping from heights or drowning?	Do you have any history of mental illness (e.g. depression)? (take a brief history of mood and past treatment if depression is present) Are you suffering from any other illnesses (e.g. chronic pain)?	We have discussed quite a lot about the overdose and some unhappy events. Are there things in life that you look forward to? Who are the people supporting you at this moment? What about religion?

20.8 Anxiety, Panic Attacks and Phobia

You are a resident working at the Accident and Emergency Department. A 26-year-old married man is referred by his GP because of his fear that he is going to lose control, associated with hyperventilation, at the office. He seems to be very stressed.

Task: assess anxiety, panic attack and phobia

Table 20.6 *OSCE Grid: Assessing Anxiety, Panic Attack and Phobia*

A) Introduce and assess generalised anxiety		
A1) Introduction	A2) Generalised anxiety	A3) Physical symptoms
I am Dr. XXX, a resident of the Accident and Emergency Department. I understand that your GP has referred you because you are afraid that you are losing control. I can imagine that it is a terrible experience. In the next 7 minutes, I want to find out more about your experiences. Is that all right with you? Can you tell me more about your stress?	Do you tend to worry a lot? How many days in the last month have you felt worried? Do you worry about anything in particular?	What sort of symptoms do you get when you feel worried? Do you feel shaky? Do you sweat a lot? Do you have difficulties with breathing? Do you feel that your heart is beating very fast? Do you have loose stools? Do you feel dizzy or light-headed?
B) Assess panic attacks and agoraphobia		
B1) Panic attacks	B2) Trigger	B3) Agoraphobia
Where did you take the medication? Was anyone else there? Were you likely to be found? Did you lock the door or take any precautions to avoid discovery?	Besides paracetamol did you take any other medication? Did you mix the paracetamol with alcohol? Did you harm yourself by other means (e.g. cutting yourself)?	Did you leave a suicide note? Did you send a message via text or email to say goodbye to your partner or family members?
C) Assess social phobia, specific phobia, comorbidity and past psychiatric history		

C1) Social phobia	C2) Specific phobia	C3) Comorbidity and past history
Do you worry about social situations where you are made the focus of attention? Do you feel very uncomfortable when other people are observing you? Can you tell me more about your concerns?	Are you scared of other situations or objects? Can you tell me more about these situations or objects?	I am sorry to hear that you are affected by these signs and symptoms. How does this condition affect your life? How do you cope? Do you seek help from your GP or psychiatrist? Did they offer you any treatment? Did you find these treatments effective? How is your mood? How is your sleep and appetite?

20.9 Obsessive Compulsive Disorder

A GP has referred a 26-year-old woman to you who has severely chapped hands due to repeated hand washing. She is very concerned about contamination.

Task: take a history to establish the diagnosis of OCD

Table 20.7 *OSCE Grid: Assessing Obsessive Compulsive Disorder*

A) Assess obsessions				
A1) Reasons for handwashing	A2) Obsessions and resistance	A3) Obsessional doubts	A4) Obsessional impulses	A5) Other obsessions
I am Dr. XXX. Your GP has referred your case to me due to excessive handwashing. Can you tell me why you need to wash	Do you feel that your thoughts are excessive? Are these ideas reasonable?	Do you ask yourself the same questions over and over again? For example, being uncertain if you have closed the door even though you have checked a few times.	Do you have impulses which you cannot control? E.g. impulse to do inappropriate things Do you have recurrent thoughts	Do you like things to be in a special order? Do you feel upset if someone changes this order?

your hands so many times a day? Can you tell me more about your concerns? Do you come up with these thoughts by yourself?	Do you feel unpleasant about these thoughts? Do you want to stop these thoughts?		of harming yourself or others?	
B) Assess compulsions				
B1) Compulsive washing	B2) Compulsive checking	B3) Compulsive counting	B4) Other rituals	B5) Nature of compulsions
How many times do you need to wash your hands per day? Why do you need to wash your hands so many times a day? How long does it take for you to take a bath? Why does it take so long? What do you do in the bathroom?	Do you need to check things over and over again? What kinds of items do you check? E.g. windows, doors How long does it take for you to finish checking all items before leaving your house?	Do you count things over and over again? Why do you need to count these things? Is there a particular number you like or do not like?	Do you perform a regular ritual or ceremony to prevent something bad from happening?	How do you find these repetitive behaviours? Are they excessive? Are they pleasurable? What would happen if you do not clean your hands? How long have you been washing your hands excessively for?
C) Impact, comorbidities, risk, insight				
C1) Psychosocial impact	C2) Comorbidities	C3) Biological complications	C4) Insight	C5) Expectations
Since you wash your hands so frequently, does it affect your work? Do these behaviours affect your relationship with other people?	Do you feel stressed or nervous? How is your mood? How are your sleep and appetite?	Since you wash your hands many times a day, do you have any skin complications? Are you seeing a dermatologist?	What is your view of the current problem? Do you think you have an illness in your mind? If not, what are your views and explanations?	What are your expectations on treatment? (assess if these expectations are realistic or achievable) What type of treatment do you prefer? (E.g.

Are you slow at work? What is your water bill like? Is it very high?	Have you thought of ending your life? Can you tell me more about your character? Are you a perfectionistic person? Do you have abnormal twitching movement in your face? (assessing tics)		Do you think you need help to reduce this handwashing behaviour? Have you read any information on OCD?	medication, psychotherapy, or both)

20.10 Post-Traumatic Stress Disorder

A GP has referred a 35-year-old driver to you for assessment. He was almost killed in a road traffic accident 6 months ago and he is suing the other party for compensation.

Task: take a history to establish the diagnosis of PTSD

Table 20.8 *OSCE Grid: Assessing Post-Traumatic Stress Disorder*

A) Explore trauma			
A1) Accident	A2) Immediate outcome of accident	A3) Extent of injury and suffering	A4) Outcome of others involved in accident
I am Dr. XXX. I am sorry to hear that you were involved in a road traffic accident. In the next 7 minutes, I would like to find more about the recent event. Is that all right with you?	How long did you wait for the rescue to come? Do you remember what happened next? Were you brought to the accident and emergency department?	Can you tell me some of the complications after the accident? Did you lose any ability or function? E.g. memory, mobility, sensation	Were the other passengers injured? How many passengers were injured? What happened to them? What is your relationship with them? Do you feel sorry toward them?

Can you tell me what happened on that night? Were you driving the car alone or with someone? Can you describe the severity of the accident? Was it life-threatening?	Were you admitted to hospital? What kind of treatment did they offer? Did you undergo an operation?	Are you still in pain at this moment? How long have you had this pain for?	
B) PTSD symptoms			
B1) Re-experiencing	B2) Avoidance	B3) Hyperarousal	B4) Emotional detachment
How long after the incident did you start getting these symptoms? What does the memory relive itself? How vivid is it? Does the memory come in the form of repetitive distressing images? How often do these mental images come in a day? Do you have nightmares at night? Can you tell me more about them?	Do you try to avoid driving a car? What about sitting in a car? Do you try to avoid the place where the accident occurred?	Are you always on edge? Do you have excessive sweating, fast heart rate and difficulty in breathing? How has your concentration been recently?	Are you able to describe your emotion? Do you feel blunted?
C) Comorbidity, vulnerability, compensation issues			
C1) Comorbidities	C2) Vulnerability	C3) Compensation and legal procedure	C4) Current support system and past treatment
How is your mood? How do you see your future?	Did you encounter any traumatic event when you were young? E.g. abuse, past accident	What is the status of the legal procedure? Is your case due to be heard in court soon?	I am very sorry to hear about the road traffic accident and the complications you have gone through.

Do you have thoughts of harming yourself? How do you cope? Do you turn to alcohol or recreational drugs?	Did you stay with your family when you were young? (explore social isolation) What was your highest education level? (low education is associated with PTSD)		Do you get any support from your partner or family members? Did you see a doctor for the anxiety symptoms? Did the doctor offer treatment to you? How do you find the treatment?

20.11 Assessment Questionnaire for Alcohol Addiction: Alcohol Use Disorders Identification Tool (AUDIT)

- **Introduction**: I am going to ask you some questions about your use of alcoholic beverages during this past year. Please explain what is meant by "alcoholic beverages" using local examples of beer/wine/vodka.
- **Hazardous alcohol misuse**:

1. Frequency of drinking: "How often do you have a drink containing alcohol?"
2. Typical quantity: "How many drinks containing alcohol do you have on a typical day when you are drinking?"
3. Frequency of heavy drinking: "How often do you have six or more drinks on one occasion?"

- **Dependence symptoms**:

4. Impaired control over drinking: "How often during the last year have you found that you were not able to stop drinking once you had started?"
5. Increased salience of drinking: "How often during the last year have you failed to do what was normally expected from you because of drinking?"
6. Morning drinking: "How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?"

- **Harmful alcohol use**:

7. Guilt after drinking: "How often during the last year have you had a feeling of guilt or remorse after drinking?"
8. Blackouts: "How often during the last year have you been unable to remember what happened the night before because you had been drinking?"
9. Alcohol-related injuries: "Have you or someone else been injured as a result of your drinking?"
10. Others concerned about drinking: "Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?"

AUDIT Scores and Management:

- **0-7**: Alcohol education
- **8-15**: Simple advice
- **16-19**: Simple advice, brief counselling and continued monitoring
- **20-40**: Referral to specialist for diagnostic evaluation and treatment; a high AUDIT score is strongly associated with suicidality

20.12 Alcohol Dependence

A 40-year-old man was admitted to the medical ward with a minor head injury while drunk. Routine blood tests showed increased GGT and MCV. The physicians have sent a referral to you because the patient also accuses his wife of having an affair with another man although there is no evidence to suggest it.

Task: assess this patient for alcohol misuse and dependence.

Table 20.9 *OSCE Grid: Alcohol Dependence*

A) Introduction			
A1) Introduction	A2) Drinking habits	A3) Average alcohol consumption	A4) Social factors
I am Dr. XXX. I understand that you have been referred from your physician as you have had some blood test abnormalities. There is also some concern about your relationship with your wife. Could we spend some time to explore that in further detail?	When did you first taste alcohol? When did you start drinking occasionally and then regularly at weekends, evenings, lunchtimes and in the mornings?	How much do you drink every day, on average? What types of alcohol do you usually drink? What else do you drink? Do you ever drink alcohol which is not meant to be edible e.g. cooking wine, hand disinfectant?	Do you usually drink alone or with friends? Do you have a tendency to indulge in more alcohol when you are drinking with friends? Do you always drink with the same company? Where do you usually drink? Do you tend to drink in the same place?
B) Tolerance and Withdrawal			
B1) Tolerance	B2) Withdrawal	B3) Physical effects	B4) Hallucinations

Nowadays do you need more alcohol to get drunk than what you needed in the past? What is the maximum you have drunk in a day? How much can you drink without feeling drunk?	What happens if you miss a drink? What would happen if you go without a drink for a day or two?	Do you feel shaky or sweat a lot? Have you ever had fits due to alcohol use?	Have you ever seen or heard things when you are unable to have your usual amount of alcohol?
C) Motivation to stop drinking (CAGE Questionnaire)			
C1) Cutting down	C2) Annoyed	C3) Guilt	C4) Eye-opener
Have you ever felt that you need to cut down on your drinking?	Have people annoyed you by criticising your drinking?	Have you ever felt guilty about drinking?	Have you ever felt you needed alcohol first thing in the morning to steady your nerves or get rid of a hangover?
D) Complications of drinking			
D1) Family and social issues	D2) Work and financial issues	D3) Forensic issues	D4) Relationship issues
Have you had issues with your family because of your drinking habits?	Has your drinking habit got you into trouble at work? Do you have any problems financing your drinking habit?	Have you got into trouble with the law because of drinking? Have you ever had issues with drink driving, drunk and disorderly behaviour in public, or getting into fights while drunk?	Have there been any problems with your existing marital relationship?
E) Treatment and Motivational Interviewing			
E1) Treatment	E2) Relapse	E3) Current suitability to quit drinking	E4) Psychiatric comorbidity
Have you previously undergone any specific treatment for your alcohol issues?	How long have you been successful without relying on alcohol? Why did you start drinking again?	Do you feel you might have a problem with alcohol? Have you ever thought of giving up alcohol completely? What do you think will happen if you do so?	Depression (commonest) Anxiety Insomnia

	When you restarted, how long did it take before you were back at your normal level of consumption?		

20.13 Anorexia Nervosa

Sally, a 15-year-old secondary school student with a two-year history of anorexia nervosa, is admitted to the hospital following a seizure after prolonged fasting. On admission, her BMI is 10 kg/m2 and her heart rate is 35 bpm.

Task: take a history from Sally to establish the aetiology and course of anorexia nervosa

Table 20.10 *OSCE Grid: Assessing Anorexia Nervosa*

A) Severity of AN symptoms				
A1) Dietary history	A2) Longitudinal weight history	A3) Weight loss and binge eating	A4) Body image distortion	A5) Medical complications
'Can you take me through your dietary habit on a normal day?' Enquire about the number of meals and content of food 'How long have you been eating in this way?' 'Where did you learn this dietary habit from?'	Take a history of weight e.g. highest, lowest and average weight in the past two years 'What is your ideal weight?'	Explore methods used e.g. avoidance of 'fattening' foods, self-induced vomiting, purging and excessive exercise Ask about binge-eating even if she presents with AN	Assess fixation on overvalued ideas (e.g. dread of fatness) and find out her self-imposed weight threshold 'How do you feel when you look in the mirror?' 'Your BMI is 10; how do you feel about that?' If patient still thinks she is too fat, gently challenge her belief and check her rationale	Explore common neuropsychiatric (e.g. slowing of mental speed, seizures), gastrointestinal (GI bleeding) and endocrine (amenorrhoea) complications, as well as severe weight loss, bradycardia and metabolic complications such as severe hypokalaemia or anaemia Explore relevant past medical

				history e.g. childhood obesity
B) Aetiology of AN				
B1) Predisposing factors	B2) Precipitating factors	B3) Maintaining factors	B4) Adolescent development	B5) School and peers
Family dysfunction (e.g. marital disharmony, sibling rivalry), enmeshment, child abuse and parenting rigidity may be present Explore family's views on food and weight	E.g. positive reinforcement of illness due to increased attention from parents preventing them from arguing	Identify role of family in reinforcing and maintaining her abnormal eating behaviour	Explore cognitive and psychosexual development Focus on common issues such as individuation	Explore interests and hobbies (e.g. ballet dancing, athletics) and academic performance Explore peer and romantic relationships (e.g. previous bullying/rejection due to body image)
C) Course of illness, comorbidity, risk assessment				
C1) Previous treatment	C2) Outcomes of previous treatment	C3) Insight	C4) Comorbidity	C5) Risk assessment
Explore both outpatient and inpatient treatment previously offered Explore previous use of medication (e.g. antidepressants, antipsychotics) and adherence to psychotherapy sessions	Focus on weight restoration and identify reasons resulting in failure (e.g. difficulties engaging with patient)	Patient may have impaired insight and deny illness; may be aggrieved by repeated attempts by family to seek help	E.g. depression, anxiety, OCD, substance abuse, perfectionistic personality Explore how comorbidities influence response to treatment	History of suicide attempts and deliberate self-harm

20.14 Suicide Assessment

Miss C is a 22-year-old university student referred to you by her general practitioner after she took 30 tablets of paracetamol. She states that she lacks motivation in life. Life appears to be meaningless. Her existence is only postponing the inevitability of death. She has a history of repeated self-injury and she had two previous psychiatric admissions in which she discharging herself. She claims that she has felt this way throughout her life.

Task: perform a suicide risk assessment, and explore the underlying cause(s) for her suicidal ideation

Table 20.11 *OSCE Grid: Suicide Assessment*

A) Risk assessment				
A1) Express empathy	A2) Current suicidal ideation	A3) Assess suicide plan	A4) Negative aspects of life	A5) Positive aspects of life
"I can imagine that you have gone through a difficult period. I am here to help you and listen to you."	"Do you wish that you were dead?" "Do you still have thoughts of ending your life? Are these thoughts intermittent or persistent?" "How often do you act on these ideas?" "How strongly are you able to resist these thoughts?"	Intent: "Did you intend to end your life by taking an overdose?" Plans: "Did you plan for this suicide attempt? How long have you been planning for it?" Methods: "Besides the overdose, did you try to harm yourself in any other way?" "Did you act alone or with others?" "Did you inform anyone prior to	"Have you ever felt despair about things?" "Have you ever felt that life is a burden?" "Have you ever felt entrapped, hopeless or defeated?"	"Do you hope that things will turn out well?" "Do you get pleasure out of life?" "Can you tell me more about your support system?" "Do you have any spiritual support such as religion?"

		the suicide attempt?" "Did you try to avoid being discovered? Did you seek help?"		
B) Underlying causes				
B1) Current life stressors	B2) Developmental	B3) Existential crises	B4) Past attempts	B5) Psychosocial problems
E.g. adjustment to university life, study load, relationship problems	E.g. childhood physical abuse, separation from parents, parental marital discord, witnessing domestic violence, witnessing suicide in family members and developing post-traumatic stress disorder	"Do you feel isolated?" "How do you see the world? Do you feel the world is hostile and meaningless? Is suicide your final destiny?"	Take a history of self-harm and suicide attempts Explore common precipitating factors of previous suicide attempts	E.g. unplanned pregnancy, financial problems, poor coping mechanism
C) Psychiatric comorbidities				
C1) Depression	C2) Substance abuse	C3) Eating disorder	C4) Personality disorder	C5) Early psychosis/ schizophrenia
Explore depressive symptoms in detail (e.g. low mood, guilt, insomnia, anhedonia)	"Do you take recreational drugs to cope with life?" "Do you take alcohol or smoke?"	"How do you see your body image?" "Have you put yourself on any dietary restrictions?" "Have you ever binge-eaten?"	Assess traits of borderline personality e.g. chronic feelings of emptiness, emotional instability, impulsiveness	Assess presence of command hallucinations e.g. â€œHave you ever heard voices telling you to harm yourself?

20.15 Assessment of Sleep Disorders

Assessment of sleep disorders requires eliciting a detailed medical and psychiatric history from the patient. Furthermore, it is crucial to perform a more in-depth assessment of the sleep disturbance.

The following questions should be asked during assessment:

Daytime

- Do you feel sleepy during the day?
- Do you take routine naps during the day?
- Do you find yourself having difficulties with concentration during the day?

Night-time

- Could you describe to me a typical night of sleep (in terms of the number of hours you get, the quality of sleep etc.)?
- Do you find yourself having difficulties with falling asleep?
- Do you sleep well? Do you find yourself awake during the night? If so, what is the reason? Is it because of poor sleep or because you need to go to the toilet? (Going to the toilet twice per night is considered to be normal and not a sleep disturbance)
- Do you find yourself waking up much earlier in the morning?

Cause and course of sleeping problems

- How long you have had such sleeping difficulties for?
- What do you think might have precipitated such difficulties?
- Do you wake up and sleep at the same time during weekends compared to weekdays?
- Does your job currently require you to work in shifts or travel frequently?
- Do you drink caffeinated beverages close to your desired sleeping time?
- Do you have any other long standing medical problems apart from the difficulties you are experiencing currently with your sleep?

Past Management

- Have you sought help for your sleep problems? (e.g. GP, psychiatrist, acupuncturist, traditional medicine practitioner)
- Are you on any chronic long-term medications to help yourself fall sleep (e.g. sleeping pills)? Where do you get these medications?

In some cases, it is also crucial to obtain a sleep history from a sleep partner. The following questions should be asked:

- Have you noticed any change in your partner's sleeping habits?
- Have you noticed that your partner has been snoring during his sleep?

- Does your partner exhibit any abnormal movements (e.g. kicking) during sleep? Have you ever been injured by these movements?

20.16 Psycho-Oncology

You are the medical resident receiving training in hepatology. Mr. A, a 40-year-old unemployed gentleman with a background of hepatitis C carrier status and intravenous drug abuse, complains of severe weight and appetite losses, progressive lethargy, yellowing of the eyes and skin and abdominal distension. He consults a hepatologist who finds that he has deep jaundice and gross ascites. A CT scan of the abdomen reveals multiple liver masses and peritoneal deposits. Ascites fluid analysis shows malignant cells, accompanied by a very high serum α-fetoprotein - fetoprotein protein level. The diagnosis of advanced hepatocellular carcinoma is made and Mr. A is informed that he has a very limited life expectancy.

Task: address end-of-life issues and Mr. A's concerns.

Why am I so unlucky to get this cancer?

- Establish rapport and express empathically that you are sorry to hear what has happened.

Was it because I used drugs? Am I a bad person?

- For issues of guilt, encourage the patient to avoid blaming himself. You can encourage him by saying that those who do not use drugs can also develop liver cancer e.g. people who get hepatitis B from birth.

I hate looking at myself in the mirror. I look thin and my skin looks yellowish. What's wrong with me?

- Explore his perception of his body image and look for possible jaundice.

The gastroenterologist says there is no cure for hepatitis C. Wouldn't it be better to give up?

- Ask the patient to think about positive aspects of his life to look forward to and encourage him to fight the illness. Explore his view on his own death. Does he have any fear?

I am very worried that I will die soon. Will I die in severe pain? Can you just ask my doctor-in- charge to give me an injection and kill me? I don't want to suffer.

- Address his suffering: Is he willing to ask for more pain control? Address the diversity of experiences of pain. Explain that euthanasia is illegal in Singapore and not an option. Explore his reasons for asking about this and discuss alternatives such as enhancing his pain management.

My mother doesn't know I have cancer. How should I tell her? She will be very sad. I am worried my family will not want me as I am a burden to them.

- Explore his relationship with his family and his concerns regarding informing his mother of his diagnosis. Also inform him of the risks of hiding his illness from other family members. Address his concern as a burden and his concern of being abandoned.

Is there God? I have committed crimes and used drugs. Will I be forgiven?

- Explore spiritual issues and his religious faith. Does he feel guilty about his past? Explore the need to be forgiven and who should forgive him e.g. God, family or friends.

You are a psychiatrist and I need your emotional support. Will you stay with me until the day I die?

- Explain boundaries and your schedule in an empathetic way: you will visit him regularly. Get other friends or caregivers involved to reach a conjoint effort.

20.17 Dementia

A 70-year-old woman is brought in by her son because she has become more forgetful.

Task: take a history to establish a diagnosis of dementia.

In clinical practice, dementia patients are often brought by concerned family members rather than complaining of memory loss themselves. Dementia patients may not have insight or may be in denial of memory loss.

1. **Onset of memory loss**: gradual or sudden
2. **Extent of memory impairment**: recent memory (more likely to be impaired) or long term memory (e.g. childhood history may not be affected)
3. **Reactions to memory loss**: confabulation (covering the memory loss by making up an answer), denial or catastrophic reaction (anger when being challenged of memory problems)
4. **Extent of cognitive impairment**: judgement, decision making, problem solving

5. **Explore aetiology**: e.g. family history of AD, history of stroke, history of Parkinson disease (e.g. resting tremor, shuffling gait, masked face) and history of multiple head injury
6. **Possible causes of reversible dementia**: e.g. normal pressure hydrocephalus (gait abnormalities, urinary incontinence), dietary habits (vitamin B12 deficiency), thyroid disorder
7. **Mood status**: history of depression and possibility of pseudodementia as a result of depression (patient tends to give don't know answer); assess sleep pattern and appetite
8. **Common psychotic features**: e.g. delusion of theft (accusing caregiver of stealing an item because the patient cannot find it), auditory or visual hallucination
9. **Behaviour problems**: e.g. violent (e.g. attacking caregiver), disinhibition, wandering behaviour
10. **Risk**: e.g. risk of having a fire or flooding at home as patient may forget to switch off stove or water tap, risk of fall, risk of financial exploitation, risk of self-harm or suicide, risk of violence
11. **Activities of daily living (ADL)**: basic ADL which include bathing, feeding and toileting by oneself; instrumental ADL which include withdrawing money from the bank, shopping and using public transport
12. **Coping by patient**: e.g. memory aids, reminders
13. **Coping by caregiver**: strain on caregiver
14. **Past medical history** and **chronic medical treatment**
15. **Social history**: education level and past occupation

20.18 Conduct Disorder

Charles is a 14-year-old boy who presents with a five-year history of increasingly significant infringements of the law, truancy, repeated fighting and expulsion from two boarding schools. He is the younger of two children and has a 17-year-old sister, who is a high achiever. Both parents have a university education.

Task: take a history from his father to establish the diagnosis of conduct disorder.

Table 20.12 *OSCE Grid: Conduct Disorder*

A) Referral and past history			
A1) Source of referral	A2) Timing of referral	A3) Onset	A4) Long pre-existing history or behaviours
e.g. via GP, legal authorities, school authorities etc.	Reasons for the referral now given that he has a five-year history of behavioural disturbance	Acute onset and precipitant e.g. parental/marital disharmony, changes in	Adverse family environment and interaction style e.g. vague instructions, harshness, physical

		the family, history of abuse or rejection	punishment, inconsistent discipline
B) Assessment of behavioural disturbances			
B1) Form of disturbed behaviour	B2) Severity of behaviour, types of CD	B3) Effects on family and others	B4) Reaction from parents
Enquire about symptoms of CD from Table 16.1, as well as other disturbed behaviours e.g. fire-setting, bed-wetting, school refusal, and their time of onset in relationship to CD	Gather sufficient information to classify his CD as mild, moderate or severe, and as socialised or unsocialised, child or adolescent onset.	Explore Charles' relationship with his elder sister; look for sibling rivalry	How parents have previously dealt with Charles' behaviours and which methods were effective or ineffective (common reactions include nagging, harsher punishment, coercive interactions, or lack of insight) Look for maintaining factors for Charles' problems
C) Assessment of psychiatric symptoms			
C1) Other child psychiatry symptoms	C2) Emotional state	C3) Psychotic features	C4) History of substance abuse
e.g. ADHD, past history of school refusal etc.	Depression: biological and cognitive symptoms Evidence of self-harm: laceration wounds, suicidal ideation	Currently or previously experiencing auditory or visual hallucination Explore any form of delusion	e.g. cannabis, solvent, alcohol misuse, smoking habit
D) Problems with school, accommodation, legal system			
D1) Expulsion from school	D2) Academic performance	D3) Accommodation	D4) Legal problems
Explore both public and private schooling; school environment (poor organisation, unfriendliness) Ask about referral to counsellor or educational psychologist, and if he	Reading, spelling or arithmetic difficulties Ask for the father's opinion on Charles' primary and secondary school results	Ask if he is living at home or elsewhere (e.g. if parents are unable to discipline him)	Ask for current and past involvement with the legal system

is currently attending school			
E) Background history			
E1) Developmental history	E2) Family history of psychiatric illness	E3) Parenting, marriage, expectation	E4) Past medical history
Elicit a history of perinatal difficulties, developmental delay, low IQ, hearing impairment, early behavioural problems, difficult temperament, history of poor coordination and motor skills	In particular, ask for antisocial personality traits and forensic record in the parents, a history of parental alcoholism, parental psychiatric illness or parents who themselves had conduct disorder in the past	Identify parent's occupations; if parents work for long hours with little time for Charles; ask about marital problems, parental discord, parental disagreement Explore parental expectations on Charles in particular with other family members' achievements	As if any doctor has commented on abnormality in his nervous system of any atypical facial appearance (e.g. neurological 'soft signs' or syndromes associated with mental retardation) Ask if Charles suffers from any chronic medical illness (e.g. epilepsy)

Closing the Interview

Thank the father and invite him to ask further questions. Emphasis the important of assessing Charles alone and then together with the family including his elder sister. Further information will need to be obtained from school or other sources e.g. general practitioner.

Management

- **Setting of management**: inpatient (sometimes for CD) vs outpatient (CD and ODD); identify indications for hospitalisation e.g. detoxification if dependent on substances or present with risk of harming others
- **Safety issues**: evaluate potential risk to the child or others e.g. parents/siblings
- **Parent management training**: most evidence-based treatment by getting parents to pay attention to desired behaviour rather than being caught up in lengthy confrontations with the child; positive aspects of parent-child relationships are promoted and parents are also taught effective techniques for handling undesired behaviour (e.g. via video demonstrations); parents are advised to join a local support group
- **Family strategies**: couple therapy can address marital discord; family therapy can target specific patterns of family dysfunction, to encourage consistency in parenting style and to develop appropriate disciplinary strategies with limit-setting
- **Liaison with school and educational authorities**: address specific academic difficulties e.g. reading; encourage the child to return to school early if they are truant

Prognosis

33% of children with CD develop antisocial symptoms which persist into adulthood and become antisocial personality disorder.

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